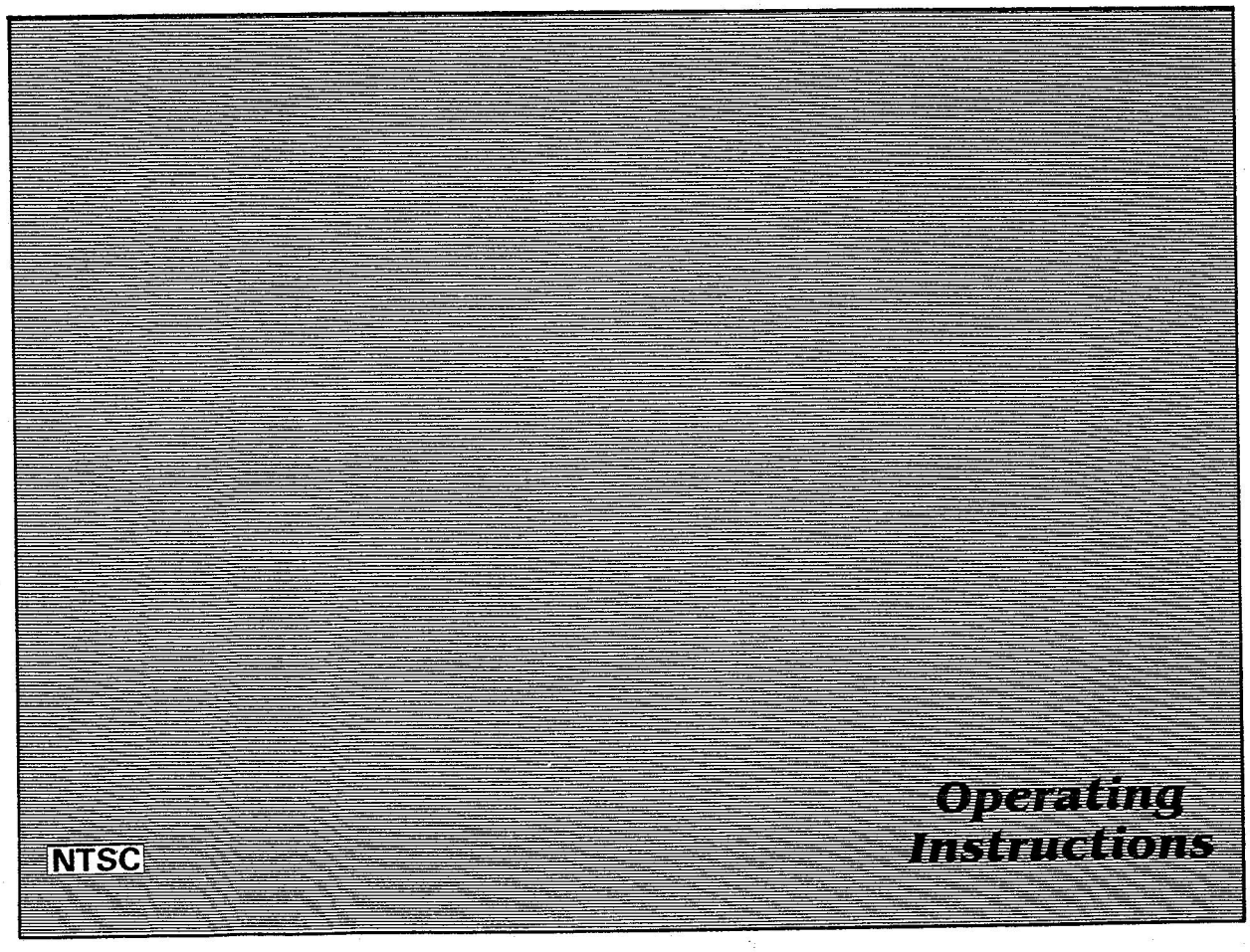
SD-P503P-QD, -WD, -Q, -W, -R,
SD-P503FP-Q, SD-P453P-Q,
SD-P453FP-Q

PIONEER®
The future of sound and vision.

PROJECTION MONITOR RECEIVER

SD-P503FP/SD-P453FP
SD-P503P/SD-P453P



SD-P503P-QD, -WD, -Q, -W, -R, SD-P503FP-Q, SD-P453P-Q, SD-P453FP-Q

Congratulations on your purchase of the PIONEER Projection Monitor Receiver.
If you have not read the cautionary instructions enclosed with these operating instructions, please do so before proceeding.
After learning how to operate the Projection Monitor be sure to keep this manual handy for future reference.

Also, while the official name of the product is the "PROJECTION MONITOR RECEIVER," for the sake of brevity the text refers to it as the "Projection Monitor" or just the "Monitor."

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IMPORTANT NOTICE

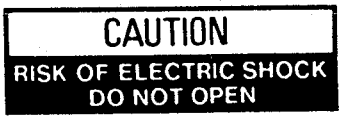
WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO WET LOCATIONS.

The model number and the serial number of this Projection Monitor are located on the rear panel. Please write the serial number on the enclosed warranty card and keep it in a safe place for future reference.

NOTE:
There are no user serviceable parts inside the Projection Monitor.

IMPORTANT

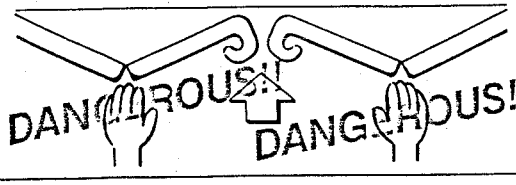
The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION FOR MODELS WITH DOOR



Be careful not to get your fingers caught in the door.

PRELIMINARY INSTRUCTIONS

WHERE TO PUT THE MONITOR

LIGHTING
Bright lights or direct sunlight will dull the picture. Set the monitor so that the screen faces away from windows.

AIR CIRCULATION
Leave space for air to circulate behind the set. Keep away from curtains and other furnishings that could block ventilation.

HEAT DAMAGE
Damage may occur if you leave the set in direct sunlight or near a heater.

OPTIMUM VIEWING DISTANCE
10 to 23 feet is the range recommended for viewing comfort.

POWER SOURCE

This Projection Monitor runs on AC 120V, standard house current.

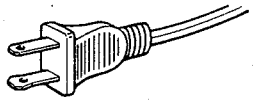
NEVER CONNECT THE PROJECTION MONITOR TO OTHER THAN THE SPECIFIED VOLTAGE, OR TO DIRECT CURRENT.

POWER OUTLET

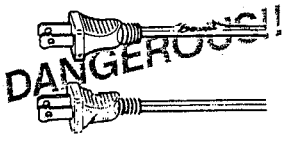
- This set requires an AC 120 volt polarized outlet. The plug will only fit one way. If it will not go in, turn it around and try the other way. If you still are unable to insert the plug, call an electrician to replace the wall socket.
- A damaged cord or plug is a fire hazard. If you notice wear or damage, have it fixed by qualified service personnel.
- Plug directly into the wall socket. Do not use extension cords or other receptacles. Do not overload the outlet; it may cause a fire hazard.

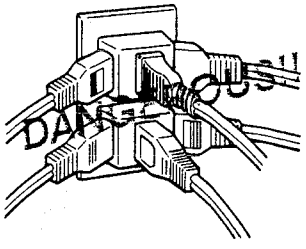
NOTE:
- *Never remove the back cover of the Projection Monitor as this will expose you to dangerously high voltage and other hazards. If the set does not operate properly, unplug it and refer to page 24.*

• POLARIZED PLUG



• DANGEROUS





POWER-CORD CAUTION

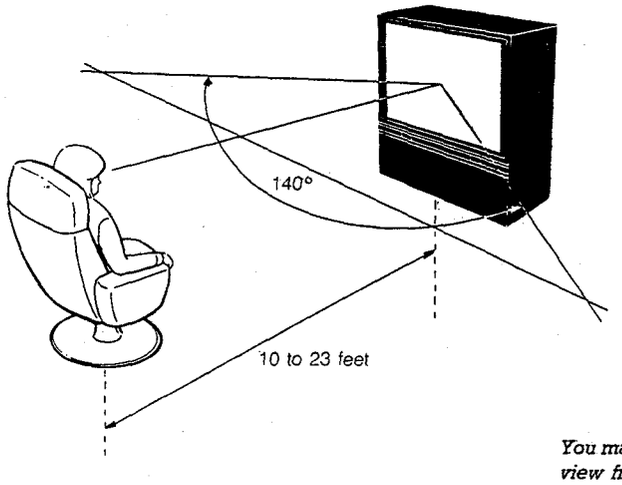
Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

FEATURES

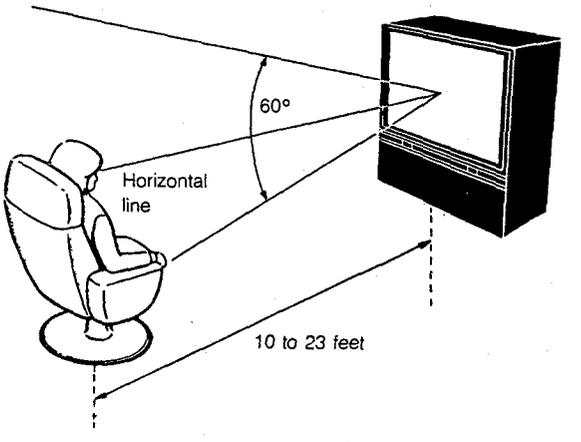
Sharp, Clear Images with 720-line (SD-P503) /700 line (SD-P453) Horizontal Resolution (Video input)
- Sharp detail and crisp outlines are realized, thanks to a 10MHz video bandwidth and Dynamic Picture Control circuitry.
- New, high-resolution picture tubes improve focusing performance by 20%.
- Dynamic focusing circuit enhances resolution at picture edges.

Improved Horizontal and Vertical Viewing Angles with Wide Viewing Range Screen
- 140° Horizontal Viewing Angle and 60° Vertical Viewing Angle.

Best Horizontal Viewing Angle



Best Vertical Viewing Angle
Watch from at least ten feet (three meters) away from the screen.
(Optimum viewing distance is 10 to 23 feet.)



You may sometimes see double images or rainbowlike effects if you view from outside of the recommended area shown here.

Amazingly Bright Picture Intensity of 320 (SD-P503)/ 370 (SD-P453) Foot-Lambert
- New, highly-efficient lens system passes more light.
- High-power picture tubes employ advanced anode stabilization circuitry and 6000pF capacitors.

Much Greater Contrast with Extended Gradation
- True black reproduction under all conditions, thanks to a Dynamic Black Level Correction Circuit.

Microcomputerized Dynamic Picture Optimizer (DPO)
- DPO (Dynamic Picture Optimizer) circuit detects room light and optimizes the TV picture accordingly.

Equipped with the Picture-in-Picture function — Two images can be displayed on the screen simultaneously.
- This function lets you enjoy two program sources at the same time.

AV Memory
- After adjusting the picture and sound quality, you can store your settings in "AV memory." Two AV memory settings can be stored and recalled.

INSTALLATION

ANTENNA CONNECTION

Connect to an outdoor antenna or a cable box or centralized antenna terminal. (See page 12 for details.)

MOUNTING

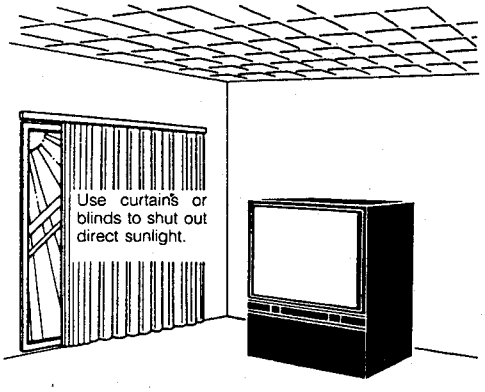
The Projection Monitor is designed to be placed on the floor or on a sturdy platform. The mounting surface should be flat and steady.

INSTALLATION PRECAUTIONS:

Place of Installation

- *When the Projection Monitor is operating, it is cooled by air-flow through ventilation holes in the rear and bottom. Therefore, avoid placing it in a location where the cooling air-flow is hindered (for example, against a wall).*
- *Avoid places subject to extremely high temperatures or humidity, or to temperatures of 41°F (5°C) or lower. Also avoid dusty places.*
- *Do not set the Projection Monitor in an unstable location (such as on a shaky or a tilted platform).*
- *When setting the Projection Monitor on a floor of soft material, make sure that the floor material is not damaged by the weight of the Projection Monitor.*
- *If the room temperature suddenly rises (or if the Projection Monitor is moved from a cool place to a hot place), dew condensation may occur on the lenses, resulting in picture distortion or color fading. In such a case, simply wait a while (with the POWER SWITCH on) and the dew will disappear.*

Downward spot lights or fluorescent lights in an overhead "Honeycomb" prevent direct illumination of the screen.



Cover shiny surfaces (floor and walls) with non-reflective materials, (carpet, rugs, wallpaper, etc.).

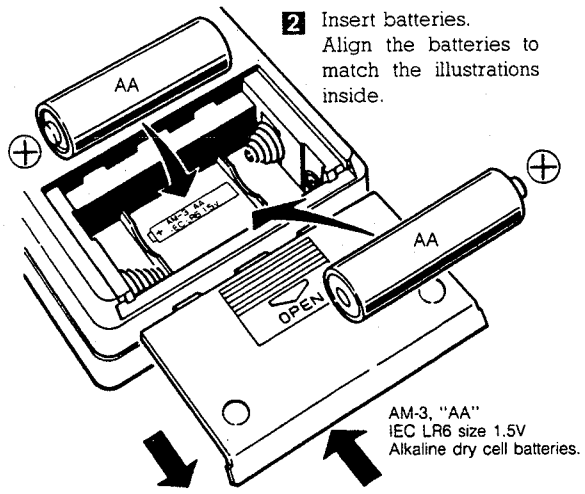
INSERTING BATTERIES IN THE REMOTE CONTROL UNIT

■ For details, see the separate operating instructions for the remote control unit.

You will find the remote control unit packed inside the projection monitor box. Open the remote control unit and insert the batteries. Follow the procedure below:

1. Open the battery compartment on the rear of the remote control unit. Press down with your thumb while sliding the lid outward.
2. Note the polarity (+ and −) markings in the case. Insert the supplied batteries so that they match the markings.
3. Close the lid by sliding it back in until it clicks into place and press the RESET button with the tip of a ball point pen. The remote control unit is now ready to use.

INSERTING BATTERIES



2 Insert batteries. Align the batteries to match the illustrations inside.

1 Open by pressing with your thumb while sliding outward.

3 Close the lid by sliding back into place.

OPERATING PRECAUTIONS

Keep away from magnetic fields
The picture may be distorted if strong magnetic fields are nearby. External speakers should be set at least two feet (60cm) away from the Projection Monitor. Electric fans and other motor driven appliances and toys may also be sources of magnetism.

When moving the monitor
Pull out the plug and move the set carefully. Be particularly careful not to bump or scratch the screen. To avoid damage to the casters you may need to lift the set when going over irregular surfaces.

Install in a flat, steady place
Do not put the Projection Monitor on a surface that is tilted, unsteady or prone to shake or vibrate. A shaky or slanted platform is dangerous.

Adjust room illumination
Excessively bright or dim lighting may strain your eyes. Draw the curtains if necessary to shut out direct sunlight.

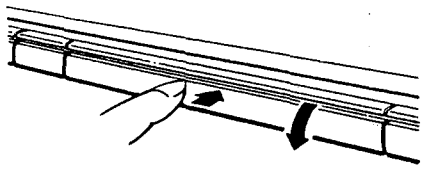
When not using the set for a long time
For safety, unplug the power cord when leaving the set turned off for a long period of time.

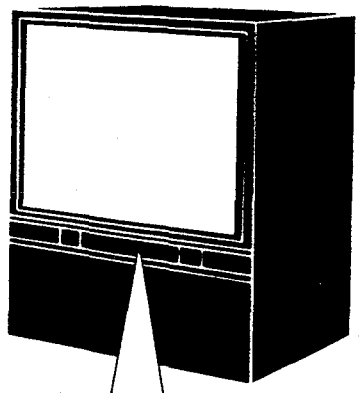
Dew (condensation) and picture blurring
- You may see a blurred picture if the set is moved from a cool to a warm location or if room temperature rises very rapidly. This occurs when moisture from the air condenses on the optical parts.
- The picture will return to normal if you leave the set turned on for an hour or two.
- A gradual change in temperature can prevent dew formation.

FRONT PANEL FACILITIES

A flip-down door conceals the control panel. Push gently and release to open the door.
To close the door, lift it back up into place.

Push and release to open.

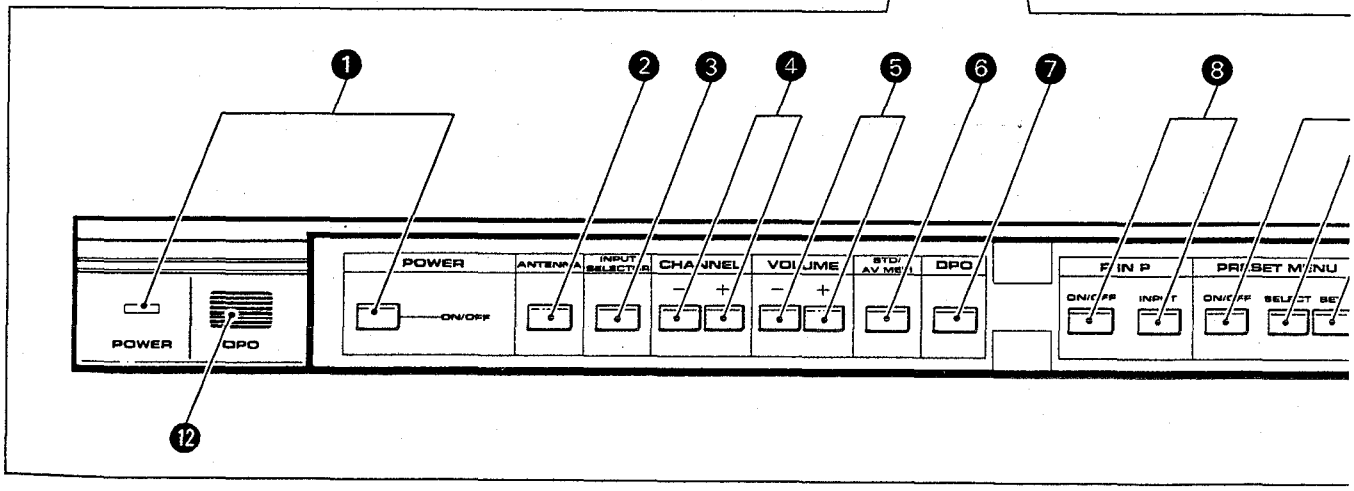




NOTE:

- *If you accidentally pull the door open, it may not shut properly. Push in when shutting the door to restore normal operation.*

Control Panel



★ Use the remote control unit to operate most functions. See the separate operating instructions for the remote control unit.

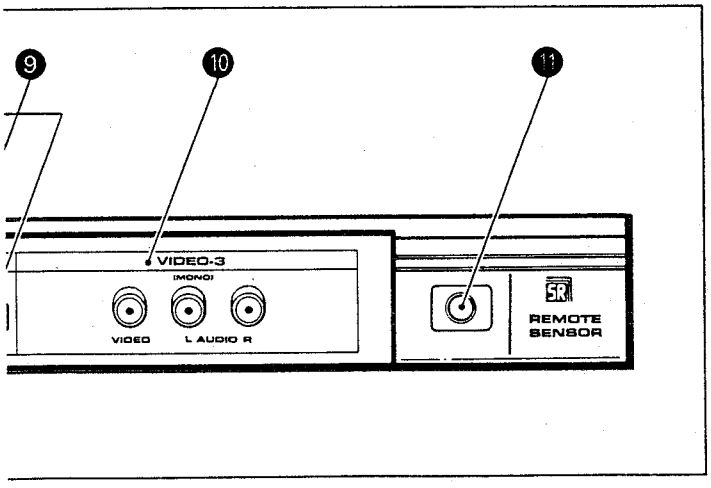
FRONT PANEL FACILITIES

❶ POWER SWITCH AND INDICATOR
Press once to turn on the power. Press again to turn the power off. The POWER indicator illuminates when the power is on. This unit is equipped with an Auto OFF circuit. 30 minutes after the input signal is not supplied (for example, the TV broadcast being received terminates broadcasting), the power automatically turns off.

❷ ANTENNA BUTTON
Press to switch between the sources you have connected to the ANTENNA-1 and ANTENNA-2 terminals. This is convenient, for instance, when switching between regular broadcast TV and cable TV.

❸ INPUT SELECTOR BUTTON
Press to select your program source: TV, video disc player (VDP), VIDEO 1, VIDEO 2 or VIDEO 3. Each press of the button changes the selection to the next source.

❹ CHANNEL BUTTONS
Press plus (+) or minus (−) to tune to a higher or lower channel. Only those channels in tuner preset can be tuned in by this method. (See page 20 for details.)



❺ VOLUME BUTTONS
Press the plus (+) or minus (−) button to raise or lower the volume.

❻ STD/AV MEM (Memory) BUTTON
Press to switch between the standard (STD) picture/sound settings and the AV MEMORY 1 and AV MEMORY 2 settings which have been input with the MENU SET button.

❼ DPO (Dynamic Picture Optimizer) BUTTON
You can turn DPO on or off as desired. When DPO is on, it automatically adjusts the picture to compensate for room illumination. (See page 22 for details.)

❽ P IN P (Picture-in-Picture) BUTTONS
ON/OFF: Press to turn the Picture-in-Picture function on and off.
INPUT: Press to select the sub screen program in Picture-in-Picture mode.
• For details on the Picture-in-Picture function, refer to the remote control unit's operating instructions.

❾ PRESET MENU BUTTONS
These buttons are used to perform the following functions: color convergence, tuner presetting, TV-CATV selection, and AV memory storage. For details, refer to the description of each function.
ON/OFF: Press to turn the Menu (functions above) on and off. When the button is pressed on, the function names CONVERGENCE, TUNER PRESET, TV-CATV MODE and AV MEMORY are displayed on the screen.
SELECT: Press to select the function to be operated. The selected function is displayed in red.
SET: Press to memorize the setting.

❿ INPUT JACKS (VIDEO-3)
These front panel jacks are handy for a portable VCR or other temporary video source connection.
When the audio signal of the source to be connected is monaural, connect the L (MONO) jack.

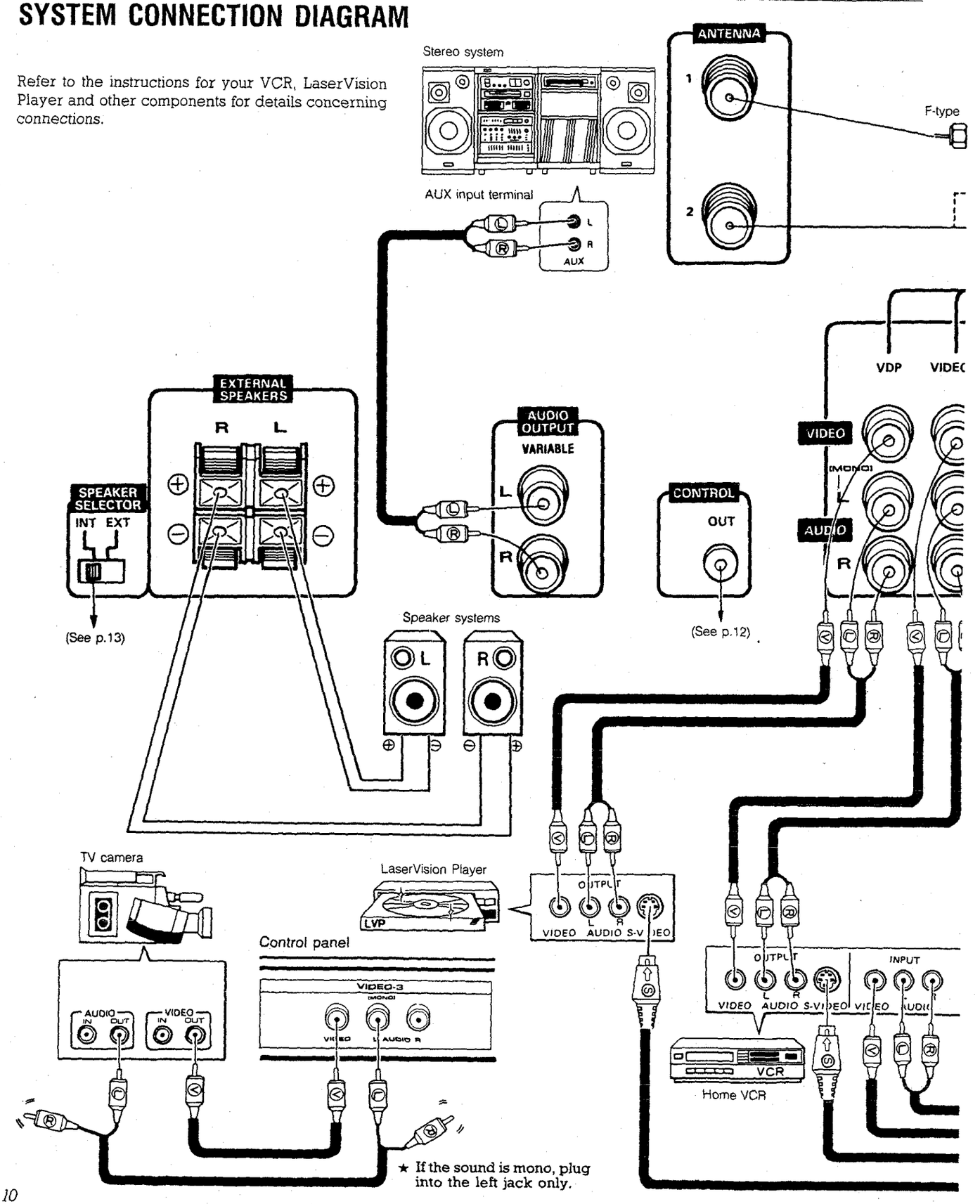
⓫ REMOTE CONTROL SENSOR
This sensor picks up infrared signals from the remote control unit.

⓬ DPO SENSOR
This detects ambient lighting for the DPO (Dynamic Picture Optimizer) circuit which optimizes the TV picture accordingly.

NOTE:
• ***Very seldom, an electrical discharge may occur inside the CRT. It makes a short, sharp pop and results in a 1- or 2-second power failure. The power will return automatically. You need not worry about the discharge for it is not a defect. It will disappear with regular use.***

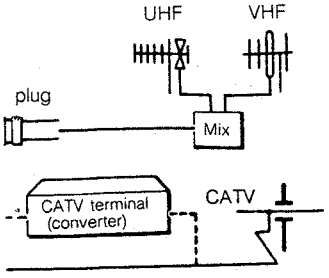
SYSTEM CONNECTION DIAGRAM

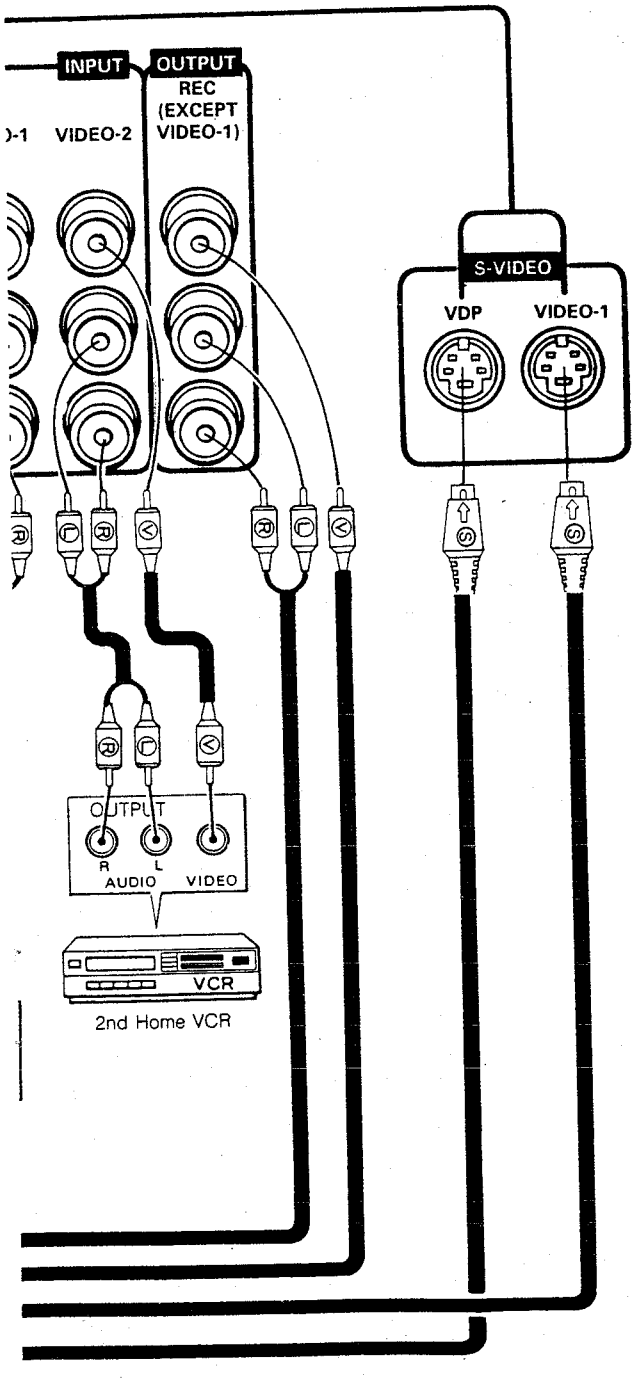
Refer to the instructions for your VCR, LaserVision Player and other components for details concerning connections.



★ If the sound is mono, plug into the left jack only.

SYSTEM CONNECTION DIAGRAM





INPUT JACKS

These are three sets of inputs for VCRs, LaserVision players, and other video sources. Use RCA-type pin plug cords (same as those used in hi-fi systems) for connections.

- When the audio signal of the source to be connected is monaural, connect the source to the L-(MONO) jack.

OUTPUT JACKS

These are used for connecting a VCR for recording, or for linking to another monitor. These jacks output the video and audio signals of the source currently selected by the INPUT SELECTOR.

If you have one VCR, connect these output jacks to your VCR's inputs. Connect the VCR's outputs to the monitor's VIDEO-1 inputs.

NOTE:

- ***If a VCR is connected to the VIDEO-2 inputs, then that VCR should not be connected to these outputs. The design of some VCRs causes an oscillation feedback loop in such situations.***

CONTROL OUT JACK

This jack is used to extend remote control to other PIONEER equipment bearing the SR (System Remote) mark.

Use mono miniplug cords (available at audio and video shops) to connect the monitor's CONTROL OUT jack to the CONTROL IN jack of the other unit. The other unit can be connected to still another in the same manner, from the CONTROL OUT jack of one to the CONTROL IN jack of the other. If a unit has only a CONTROL IN jack then put that unit last in the sequence. Otherwise, you may connect in any order that is convenient.

If another unit has the SR mark and its own remote control sensor, then the CONTROL OUT/IN jack connection is not required. However, this connection may improve the response of remote control, since you will not need to point the remote control unit at different components.

(See page 12.)

AUDIO OUTPUT (VARIABLE) JACKS

These jacks output the audio signal from the video program material currently selected for viewing on the monitor. Connect these audio output jacks to the AUX input jacks of your stereo system. You can then use the remote control unit to adjust the volume.

S-VIDEO INPUT JACKS

Use the S-VIDEO VIDEO-1 jack for input of S-VHS or ED Beta VCR video signals.

Use the S-VIDEO VDP jack for inputting signals from a LaserVision player having an S output jack.

When making S-VIDEO connections for either a VCR or a LaserVision player, be sure to also keep the standard VIDEO and AUDIO connections between the VCR/LaserVision player and the Projection Monitor.

SPEAKER SELECTOR

This lets you select either the built-in speaker or external speakers.

(See page 13.)

NOTE:

- ***Set to INT when using the built-in speakers. Do not use the INT setting if using speakers connected to the EXTERNAL SPEAKER terminals on the rear panel. At the INT setting, no sound is output from the external speakers.***
- ***Set to EXT when using external speakers (or if you will be directing the output through your stereo system). At the EXT setting, no sound is output from the internal speakers.***

EXTERNAL SPEAKERS TERMINALS (R, L)

For connection of external speakers (purchased separately).

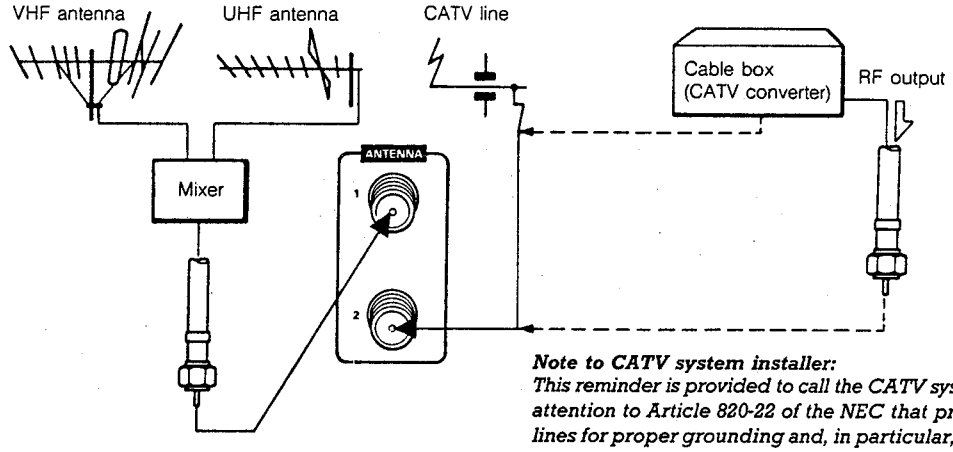
ANTENNA CONNECTIONS

A good color picture depends on a good TV signal. So does good multi-channel (stereo and SAP) sound. To assure the highest signal quality, choose an antenna that suits your reception area and have it properly installed. Ask your dealer for advice.
Of course, if you will be subscribing to cable or have a central antenna for your building, then you will not need an external antenna.
However, proper connections from your TV signal source to your monitor are essential. Please refer to the instructions below.

USING THE ANTENNA CABLE CONNECTOR

The cable connector plugs into one of the monitor's antenna terminals. This unit is designed to connect to a 75 ohm coaxial cable using an F-type plug.

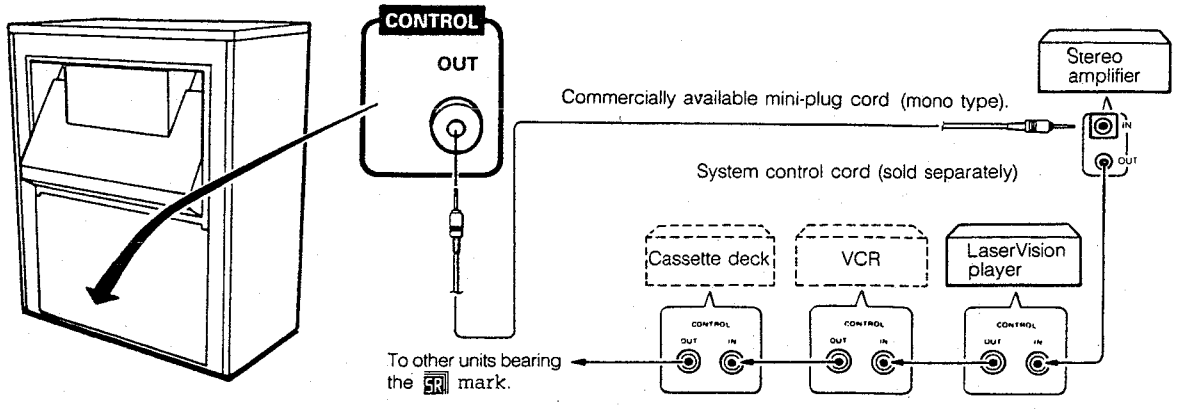
Plug the antenna cable connector into the ANTENNA 1 terminal. If you subscribe to cable, connect the cable box output to the ANTENNA 2 terminal.



Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground should be connected to the grounding system of the building, as close to the point of cable entry as practical.

SYSTEM REMOTE CONTROL CONNECTIONS

Many PIONEER audio and video components can be connected to allow remote control of an entire audio/video system. Use mini-plug cords (monaural) which may be purchased in most audio and video stores. Connect from the CONTROL OUT jack of one unit to the IN jack of the next unit.

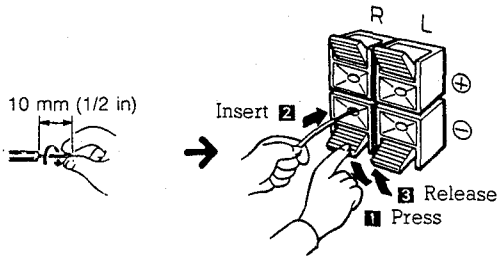


SPEAKERS

CONNECTING EXTERNAL SPEAKER WIRES

Strip each wire so that about half an inch is exposed. Twist the core.

Turn off the power of the monitor and connected equipment.
Press the lever, insert the wire, and release the lever to lock the wire into place. Pull gently on the wire to check that it is securely connected.



Do this for each wire. Be careful to connect the right speaker's plus and minus terminal wires to the "R" "+" and "−" terminals. Likewise, connect the left speaker's plus and minus terminal wires to the "L" "+" and "−" terminals.

Precautions

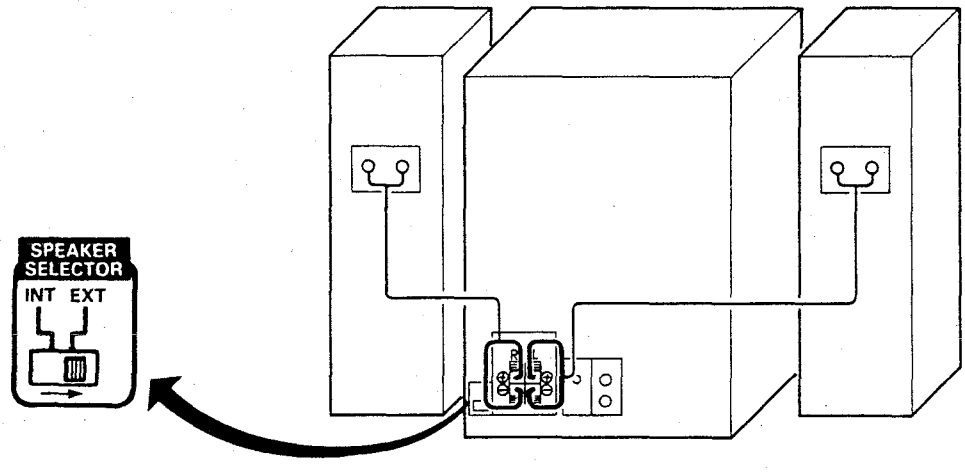
- Be sure that exposed wires do not protrude and touch each other.
- If you do not hear a normal stereo image when listening to a stereo program, it may be because the "+" and "−" connections are reversed for one of the external speakers.
- Be sure that the right speaker is connected to the "R" terminals and the left speaker to the "L" terminals. Be sure that each speaker's two wires are properly connected to the appropriate "+" and "−" terminals.

NOTES:

- *Use speakers having an impedance rating of from 8 ohms to 16 ohms. Speakers having less than 8 ohms impedance may draw excessive current, triggering the monitor's protection circuit. The protection circuit cuts off output to prevent damage in case of short circuits or abnormally low impedance.*
- *Ordinary speakers are not magnetically shielded and may disturb the picture if placed too close to the monitor. Move the speakers about two feet away from the monitor if you notice a problem.*

SPEAKER SELECTOR

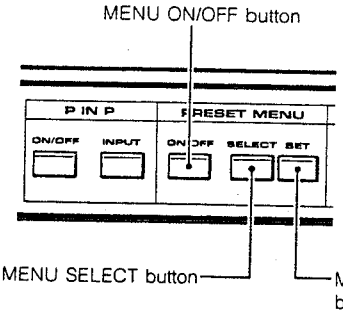
Set this to the INT position if you will be listening to the built-in speakers. If you have connected external speakers (or if you will be listening through your stereo system), then you can turn off the built-in speakers by setting the selector to the EXT position.

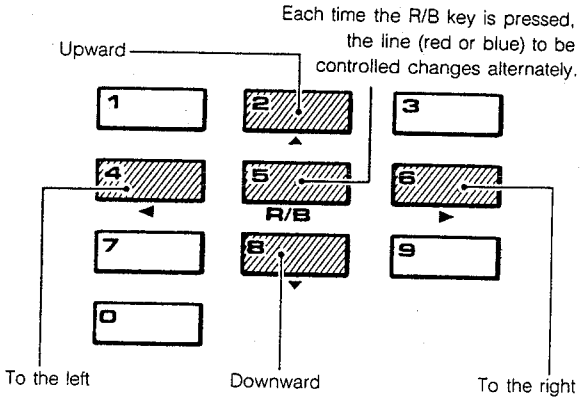


HOW TO ALIGN COLOR CONVERGENCE

This Projection Monitor uses three separate TV tubes. There are a red tube, a green tube, and a blue tube. The red, green and blue images are projected onto the screen where they converge to form a full color picture. If they do not converge correctly, then you see colored borders around the images.
Your dealer should adjust the color convergence when your set is delivered. However, convergence may drift over time or if you move the set.
Follow the steps below if color convergence alignment is needed.

1. Turn on the power and select an active channel. Wait a moment for the picture to stabilize.
2. Press the MENU ON/OFF button on the control panel. The monitor screen displays the menu (CONVERGENCE, AV MEMORY, TV-CATV MODE, and TUNER PRESET).
   Make sure that the CONVERGENCE display lights up in red. If the other mades are selected, press the MENU SELECT button to choose the CONVERGENCE.
3. Press the MENU SET button on the control panel. If color convergence is correct, there will be one vertical white line and one horizontal white line, as in figure 1.
4. If you see separate colored lines, use the R/B, ◄, ►, ▲, and ▼ keys on the remote control unit to make the red and blue lines disappear into the other lines.
   Each time the R/B key is pressed, the line (red or blue) to be controlled changes alternately.
   Pressing the ◄ key moves the line to the left, while pressing the ► key moves the line to the right.
   Pressing the ▲ key moves the line upward, while pressing the ▼ key moves the line downward.
   In figure 2, for example, press the R/B key to control the red line, and then press the ◄ key so that the red line converges.
   Press the R/B key again to control the blue line, and then press the ▼ key so that the blue line converges.
   Convergence is correct when all three colors (red, green, and blue) converge, producing single white lines.
5. Press the MENU ON/OFF button twice when convergence is correct.





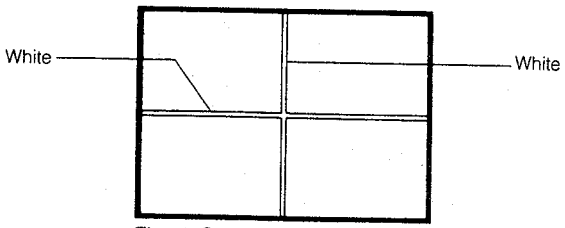


Fig. 1 Correctly aligned

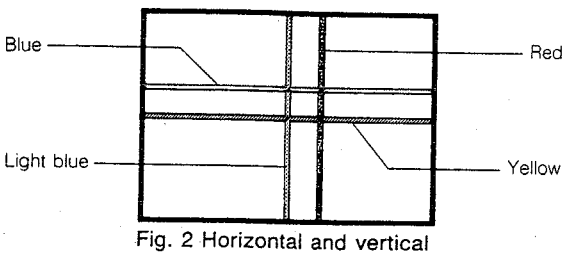


Fig. 2 Horizontal and vertical misaligned

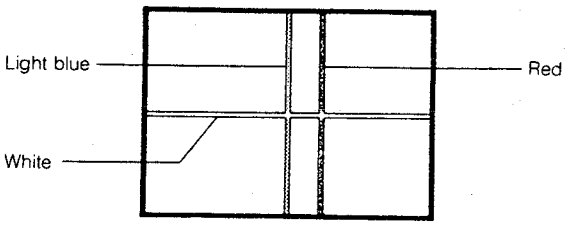


Fig. 4 Horizontal misaligned

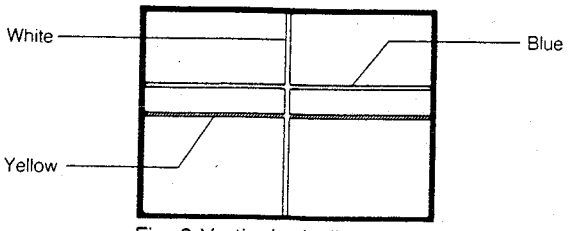


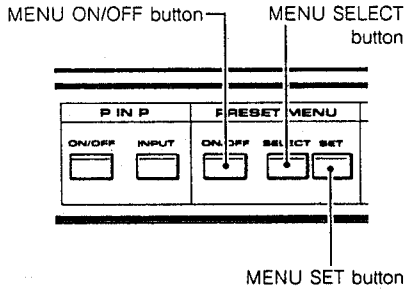
Fig. 3 Vertical misaligned

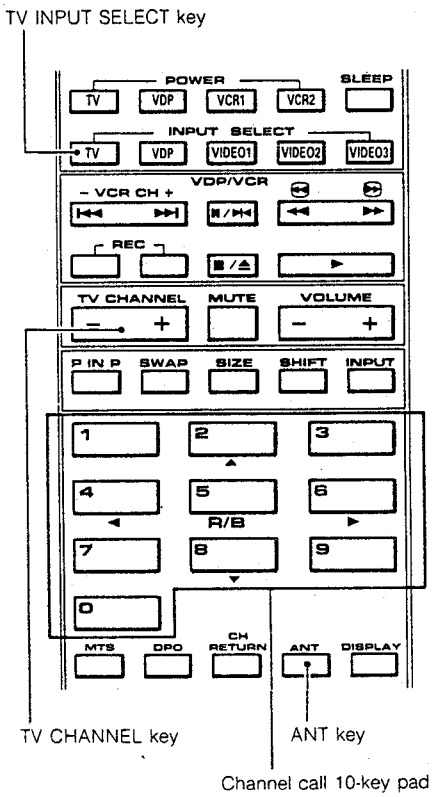
TV CHANNEL SELECTION

The Projection Monitor uses a frequency synthesizer tuning system to permit reception of up to 127 channels (including cable channels). This electronic tuning system gives you two ways of selecting channels.
You can use the remote control keys numbered "0" through "9" to directly input the channel number.
Or you can use the TV CHANNEL keys marked "+" and "−" on the remote control unit or the CHANNEL buttons marked "+" and "−" on the control panel to select one channel after another. In this case you can remove or add channels so that "TUNER PRESET" contains only those channels that you usually watch.
The 127 possible channels include broadcast TV channels 2-13 (VHF), 14-69 (UHF), as well as cable (CATV) channels 1-13 (VHF), 14-22 (mid-band), 23-36 (super-band), 37-65 (hyper-band), and 94-99 (mid-band).

NOTE:

- *TUNER PRESET refers to channel access by pressing the TV CHANNEL keys marked "+" and "−." You can specify which channels are to be included in TUNER PRESET before using this function. Details follow.*





TV MODE AND CATV (CABLE) SYSTEM PRESETTING

Once you preset your local CATV mode and TV mode in the ANTENNA 1 and 2 preset memory, you can select CATV or TV by pressing the ANT (antenna selector) key.

PRESETTING TV MODE

1. Press the INPUT SELECTOR button so that "TV CH XX" appears on the monitor screen, or press the TV INPUT SELECT key on the remote control unit.
2. Turn on the menu with the MENU ON/OFF button and press the MENU SELECT button so that the TV-CATV MODE display turns red.
3. Press the MENU SET button. "ANTENNA 1 XXX" and "ANTENNA 2 XXX" appear on the screen.
4. Press the MENU SELECT button so that "ANTENNA 1 XXX" turns red. (This is assuming that your TV antenna is connected to the ANTENNA 1 terminal on the rear panel.)
5. Press the MENU SET button so that "AIR" appears on the screen. TV mode is now preset in the ANTENNA 1 memory, so you can receive TV broadcasts with the ANTENNA 1 setting.
6. Press the MENU ON/OFF button twice (or once) to return to normal operation.

PRESETTING YOUR CATV SYSTEM

1. Press the INPUT SELECTOR button so that "TV CH XX" appears on the monitor screen, or press the TV INPUT SELECT key on the remote control unit.
2. Turn on the menu with the MENU ON/OFF button and press the MENU SELECT button so that the TV-CATV MODE display turns red.
3. Press the MENU SET button. "ANTENNA 1 XXX" and "ANTENNA 2 XXX" appear on the screen.
4. Press the MENU SELECT button so that "ANTENNA 2 AIR" turns red. (This is assuming that your cable converter box is connected to the ANTENNA 2 terminal on the rear panel.)
5. Select "STD (standard)" or "HRC" with the MENU SET button. (Ask your dealer of cable service provider which is correct for your local CATV system.) Each press of the MENU SET button moves the selection from AIR to STD, to HRC, and then back around to AIR again. The displayed mode ("STD" or "HRC") is now preset in the ANTENNA 2 memory, so you can receive your local CATV broadcast with the ANTENNA 2 setting.
6. Press the MENU ON/OFF button twice (or once) to return to normal operation.

BROADCAST TV CHANNEL SELECTION

1. Press the INPUT SELECTOR button so that "TV CH XX" appears on the monitor screen, or press the TV INPUT SELECT key on the remote control unit.
2. Press the ANT key on the remote control unit or on the control panel so that "ANTENNA-1" appears on the monitor screen. (This is assuming that your antenna is connected to the ANTENNA 1 terminal on the rear panel.)
3. Select channels directly by pressing the channel number on the remote control "CHANNEL CALL" 10-key pad. For example, to receive channel "23," press 2 and then 3. For channels 2 through 9, first press zero, then the number. Or just press the number and wait for about four seconds.
   (While waiting for you to input a second digit, the first digit blinks. If you do not input a second digit within four seconds, then the first digit is selected as the channel number.)
4. Channel memory selection is also possible. Using the TV CHANNEL keys marked "+" and "−" on the remote control unit or CHANNEL buttons marked "+" and "−" on the control panel you can scan through the channels which are in tuner preset. To add or delete channels in memory, see TUNER PRESET on page 20.

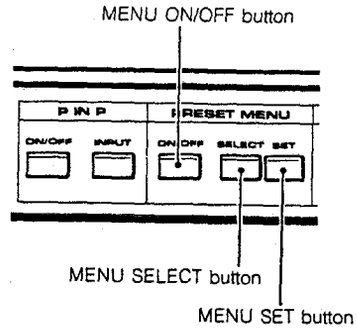
CABLE (CATV) CHANNEL SELECTION

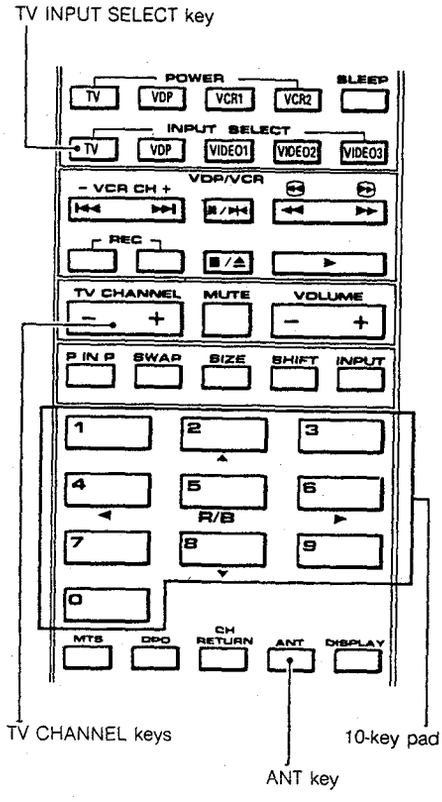
1 Press the INPUT SELECTOR button so that "TV CH XX" appears on the monitor screen, or press the TV INPUT SELECT key on the remote control unit.

2 Press the ANT key on the remote control unit or on the control panel so that "ANTENNA-2" appears on the monitor screen. (This is assuming that your cable converter box is connected to the ANTENNA 2 terminal on the rear panel and that your local CATV system is preset in ANTENNA 2 memory. For presetting your CATV system, see "PRESETTING YOUR CATV SYSTEM.")

3 **Select channels directly by pressing the channel number on the remote control 10-key pad.** For example, to receive channel "23," press the 2 and then 3. For channels 1 through 9, first press zero, then the number. Or just press the number and wait for about four seconds. Note that channel numbers "00," and "66" through "93" are not assigned. So the selected channel will not change if you input these numbers.
You can select VHF channels (1-13), mid-band channels (A1-A6, A-I), super-band channels (J-W), and hyper-band channels (AA-CCC). Refer to the standard cable channel assignment table shown here. Your local service provider's channel assignments may differ from those shown in the table.

4 **Channel memory selection is also possible.** Using the TV CHANNEL keys marked "+" and "−" on the remote control unit or the CHANNEL buttons marked "+" and "−" on the control panel you can scan through the channels in channel memory. To add or delete channels in memory, see TUNER PRESET on page 20.





CABLE (CATV) CHANNEL ASSIGNMENT TABLE

Channel number assignment for the cable tuning mode begins with 01 through 65, omits the unassigned numbers 66 through 93, then proceeds from 94 through 99. The specific channel number assignments and the corresponding alphabetical designation are shown below in the channel table.

	VHF L	MID		VHF H	SUPER	HYPER			UHF
TV	2 ~ 6	—		7 ~ 13	—	—			14 ~ 69
CATV	2 ~ 6 (STD)	A-6 (94)	A (14)	7 ~ 13	J (23) Q (30)	AA (37)	KK (47)	TT (56)	—
		A-5 (95)	B (15)		K (24) R (31)	BB (38)	LL (48)	UU (57)	
		A-4 (96)	C (16)		L (25) S (32)	CC (39)	MM (49)	VV (58)	
		A-3 (97)	D (17)		M(26) T (33)	DD (40)	NN (50)	WW (59)	
		A-2 (98)	E (18)		N(27) U (34)	EE (41)	OO (51)	XX (60)	
	1 ~ 6 (HRC)	A-1 (99)	F (19)		O(28) V (35)	FF (42)	PP (52)	YY (61)	
			G (20)		P (29) W(36)	GG (43)	QQ (53)	ZZ (62)	
			H (21)			HH (44)	RR (54)	AAA(63)	
			I (22)			II (45)	SS (55)	BBB (64)	
						JJ (46)		CCC(65)	

For example: Channel number "14" corresponds to mid-band cable channel "A."

NOTE:

- *Cable (CATV) services can vary from area to area. The channel number assignments shown in the channel table may not correspond with the channel numbers used by your local cable company. Direct tuning to cable channels without the use of the cable company "converter" or "preselector" will depend on the specific channels in use by the cable company. Direct tuning to cable channels is limited to unencoded (unscrambled) channels only. Check your local cable company compatibility requirements.*

MULTI-CHANNEL TV SOUND (MTS)

A multi-channel TV sound decoder is built into the Projection Monitor.
This MTS decoder permits stereo and SAP sound reception. (SAP is a "second audio program" often used for a second language.) The MTS decoder is only effective if the broadcast includes stereo or SAP signals.

NOTE:

- *Broadcast stereo and SAP reception operate in accordance with the Broadcast Television Systems Committee (BTSC) standard only. Stereo audio transmission from CATV (Cable television) systems can vary from area to area and may not be compatible with the BTSC standard.*
  Check with your local cable company for specific compatibility requirements.

STEREO RECEPTION

If necessary, use the remote control MTS key to switch to the MAIN setting. The set will switch automatically between mono and stereo according to the signals received.

NOTE:

- *The MTS displays are displayed only when the channel is turned or the DISPLAY key on the remote control unit is pressed.*

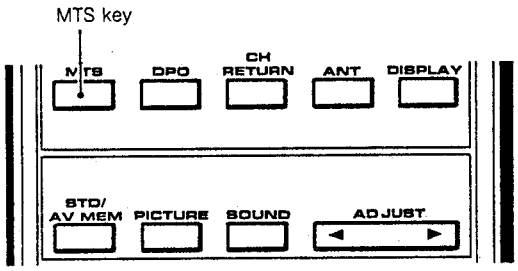
SAP (SECOND AUDIO PROGRAM) RECEPTION

TV stations have the option of broadcasting a second audio program (SAP) signal. This additional sound channel accompanies another mono signal or stereo signal. However, the SAP sound itself is in mono.

Use the MTS key to switch to the SAP or MAIN/SAP setting if you wish to hear "second audio program" sound. (At the MAIN/SAP setting, the SAP sound will come from the right stereo speaker while the left speaker produces the main sound signal.)
You will still hear stereo or mono sound when there is no SAP signal.

MONO RECEPTION

You can force monophonic reproduction of all programs by using the MTS key to select MONO.

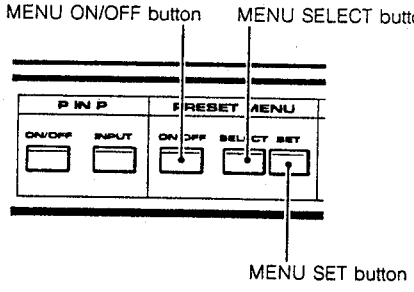


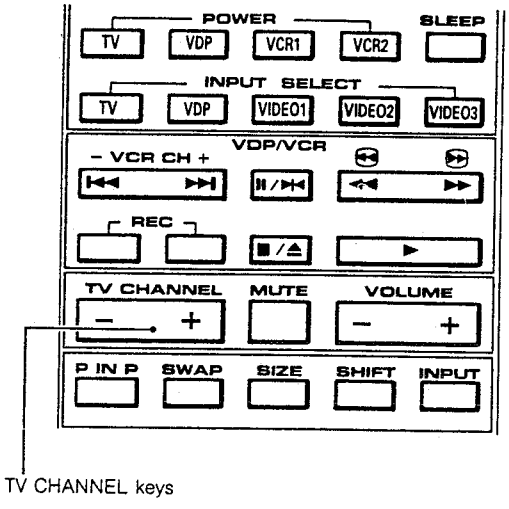
Audio Reception Mode Display (selected by the MTS key)

Mode selected \ Broadcasted mode		MONO	STEREO	MONO + SAP	STEREO + SAP
MAIN	Display	TV CH ○ ○	TV CH ○ ○ STEREO	TV CH ○ ○ MAIN	TV CH ○ ○ STEREO <SAP>
	REPRODUCTION Mode	MONO	L, R	MONO (MAIN)	L, R
SAP	Display	TV CH ○ ○	TV CH ○ ○ STEREO	TV CH ○ ○ SAP	TV CH ○ ○ SAP <ST>
	REPRODUCTION Mode	MONO	L, R	SAP	SAP
MAIN/SAP	Display	TV CH ○ ○	TV CH ○ ○ STEREO	TV CH ○ ○ MAIN/SAP	TV CH ○ ○ MAIN/SAP <ST>
	REPRODUCTION Mode	MONO	L, R	L. MONO (MAIN) R. SAP	L. MONO (MAIN) R. SAP
MONO	Display	TV CH ○ ○ MONO	TV CH ○ ○ MONO	TV CH ○ ○ MONO	TV CH ○ ○ MONO
	REPRODUCTION Mode	MONO	MONO	MONO (MAIN)	MONO (MAIN)

TUNER PRESET

You can customize this special tuning system so that it will select only your personal choice of channels. When the Projection Monitor leaves the factory, all possible channels are in TUNER PRESET.
Using the menu function you can add or delete channels to or from TUNER PRESET.
You can freely add and delete channels as you like.





OTHER MEMORY FEATURES

The Projection Monitor also remembers many other settings related to day-to-day operation. So when you turn the set on, it comes up with your previous channel and volume settings. It also remembers your previous picture quality settings.

TUNER PRESETTING

TUNER PRESET can be set to match your personal preferences among the channels available in your area. Please refer to your local TV or cable program guide. Follow the procedures below to customize TUNER PRESET to your requirements.

Removing Channels from TUNER PRESET

1. Turn on the monitor (If necessary, select TV or CATV mode with the ANT key, as appropriate. See page 15.)
2. Turn on the MENU ON/OFF button, and press the MENU SELECT button so that the TUNER PRESET display turns red.
3. Press the MENU SET button. The channel numbers appear on the screen.
4. Press the MENU SELECT button or the TV CHANNEL (– or +) button so that the channel number to be deleted blinks. (The preset channel numbers are displayed in green.)
5. Press the MENU SET button to delete the currently selected channel from TUNER PRESET. The blinking number turns red. The red numbers show the deleted channel numbers.
6. Repeat steps 4 and 5 to delete additional undesired channels.
7. Press the MENU ON/OFF button twice after presetting is completed.

Adding channels to TUNER PRESET

1. Turn on the monitor. (If necessary, select TV or CATV mode with the ANT key, as appropriate. See page 15.)
2. Turn on the MENU ON/OFF button, and press the MENU SELECT button so that the TUNER PRESET display turns red.
3. Press the MENU SET button. The channel numbers appear on the screen.
4. Press the MENU SELECT button or the TV CHANNEL (– or +) button so that the channel number to be added blinks. (The deleted channel numbers are displayed in red.)
5. Press the MENU SET button to add the currently selected channel to TUNER PRESET. The blinking number turns green.
   The green numbers show the added channel numbers.
6. Repeat steps 4 and 5 to add additional desired channels.
7. Press the MENU ON/OFF button twice after presetting is completed.

Now you can recall the preset channels by pressing the remote control TV CHANNEL "+" and "–" keys or the control panel CHANNEL "+" and "–" buttons.

PICTURE AND TONE ADJUSTMENT

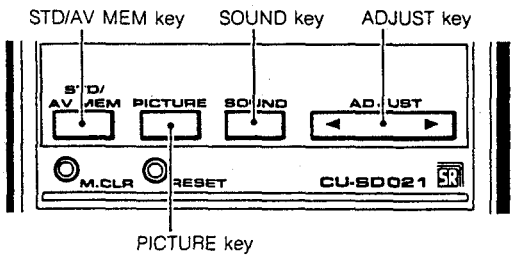
The remote control unit has a PICTURE key and a SOUND key.
When you press the PICTURE key, the screen will show the picture items you can adjust. These items are color, tint, contrast, brightness, and sharpness.
When you press the SOUND key, the screen will show the sound items you can adjust. These items are bass, treble, and balance.

1. Press the PICTURE key or SOUND key so that the item to be adjusted turns red.
2. Press the right side of the ADJUST key to raise the value of the selected item. Press the left side to lower it.

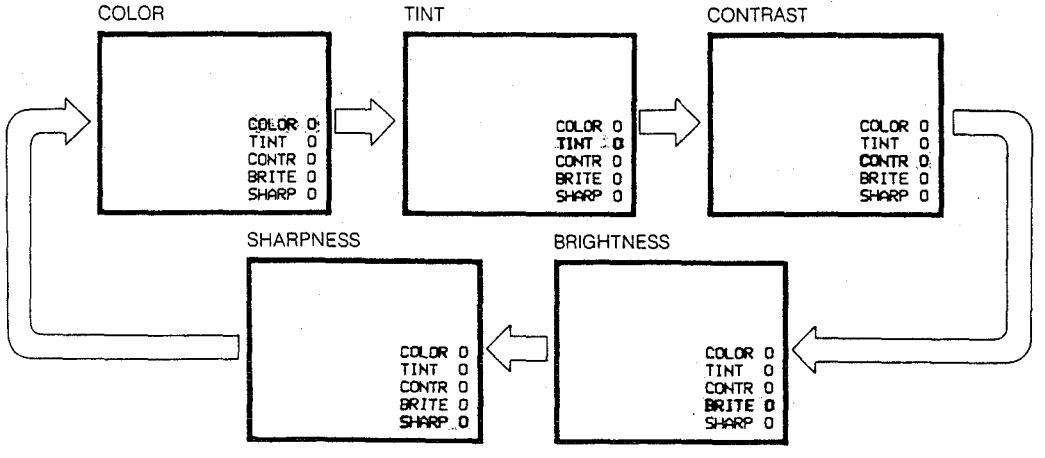
Set each item to any value you like; the current value is shown on the screen.

NOTE:
- *The picture and sound quality settings are automatically set to the standard (0) settings after the POWER switch is turned off and then the power cord is unplugged.*
- These picture and sound quality settings can be stored in the AV MEMORY preset memory. See AV MEMORY on page 22.
- To return to the standard settings initially set at the factory, simply press the STD/AV MEM key so that the screen shows STD.

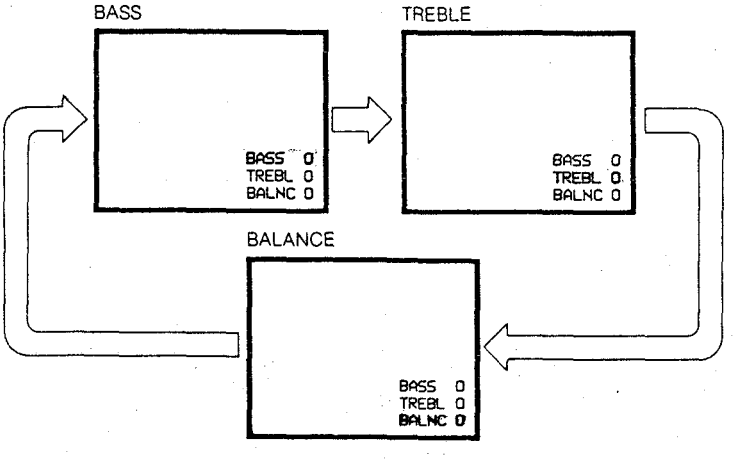
NOTE:
- *The Projection Monitor has been adjusted before shipping. Please make additional adjustments to suit your personal taste.*



SCREEN INDICATIONS FOR PICTURE ADJUSTMENT
(Selected item is displayed in red.)



SCREEN INDICATONS FOR SOUND ADJUSTMENT



NOTE:
- *If the color seems wrong but can not be fixed by color or tint adjustment, then you may need to align the color convergence (See page 14).*

AV MEMORY

After making adjustments, you can store your picture and tone quality settings in the two AV MEMORY presets. Follow the procedure below.

Storing a Setting

1. Watch a TV show, video tape, or video disc.
2. Adjust the picture and tone by using the PICTURE key, SOUND key and ADJUST key.
3. Turn on the MENU ON/OFF button, and press the MENU SELECT button so that the AV MEMORY display turns red.
4. Press the MENU SET button.
5. Press the MENU SELECT button to select the AV memory (AV MEMORY 1 or AV MEMORY 2) in which the setting is to be stored. The selected AV memory is displayed in red.
6. Press the MENU SET button to store the settings in AV memory. Upon completion of memory storage, "PROGRAMMED" appears on the screen.
7. Press the MENU ON/OFF button twice (or once) to return to normal operation.

Recalling a Setting

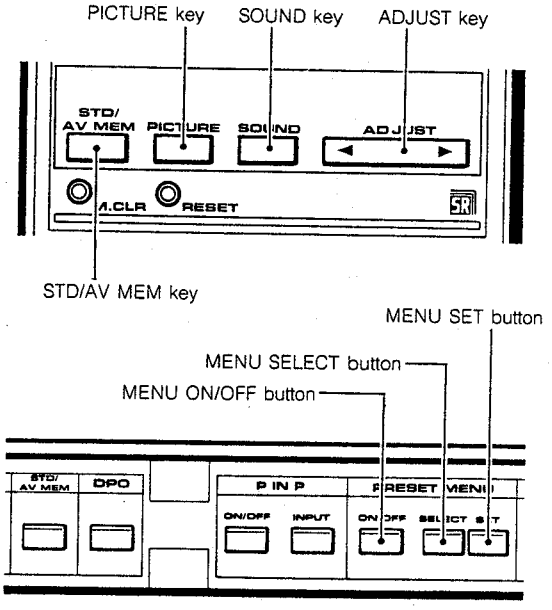
Press the STD/AV MEM key on the remote control unit. Each press of the STD/AV MEM key moves the selection from STD to AV MEMORY 1, to AV MEMORY 2 and then back around to STD again. (Press the key while the previous legend is still on the screen. Otherwise, it will return to the STD setting.)

Returning to the Standard Setting

Press the STD/AV MEM key so that the screen shows STD.

NOTE:

- *The balance setting cannot be stored in AV MEMORY preset.*
- *AV Memory settings do not affect the signals sent out from the Projection Monitor's output jacks.*



DPO ADJUSTMENT

When the DPO (Dynamic Picture Optimizer) switch is on, the monitor automatically adjusts the contrast, brightness and color to match room lighting conditions. This is done according to factory preset specifications which ordinarily do not need to be changed. However, if the DPO is giving you too bright a picture under dim lighting conditions, you can change its response by following these directions.

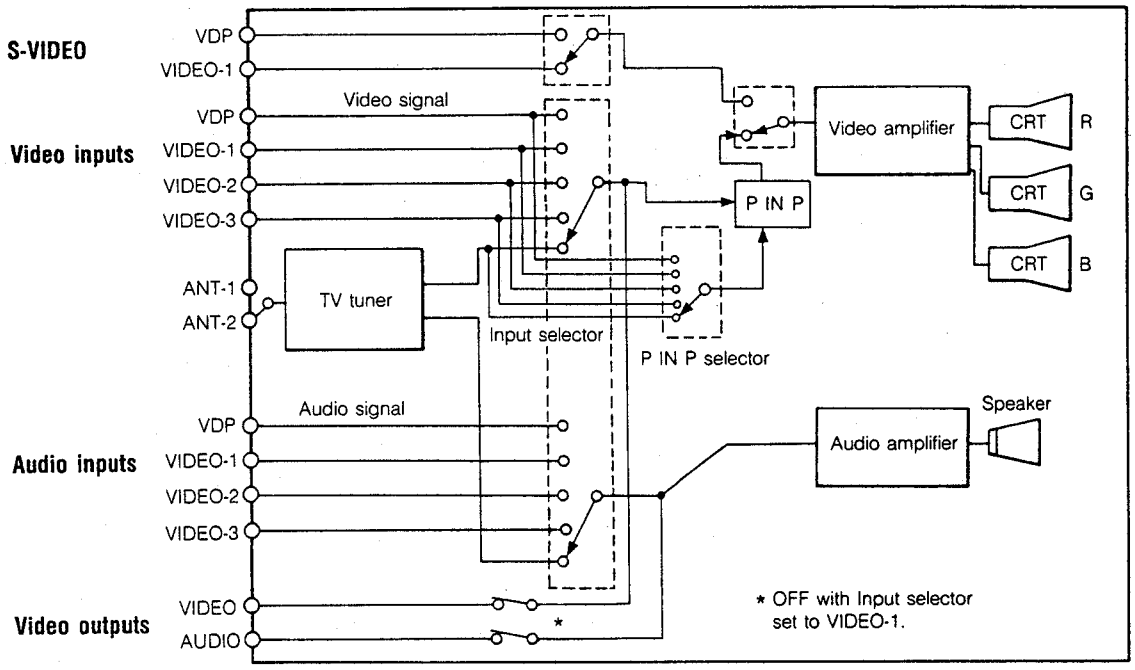
1. Under dim room lighting, watch a TV show, video tape, or video disc.
2. Use the PICTURE key and ADJUST key to adjust the color, contrast, and brightness.
3. Turn on the MENU ON/OFF button and press the MENU SELECT button so that the AV MEMORY display turns red.
4. Press the MENU SET button. "AV MEMORY 1," "AV MEMORY 2," and "DPO BASE" appear on the screen.
5. Press the MENU SELECT button so that "DPO BASE" turns red.
6. Press the MENU SET button to store the DPO setting "PROGRAMMED" appears on the screen.
7. Press the MENU ON/OFF button twice (or once) to return to normal operation.

Now when DPO is on, it will reproduce your setting under dim lighting conditions.

NOTE:

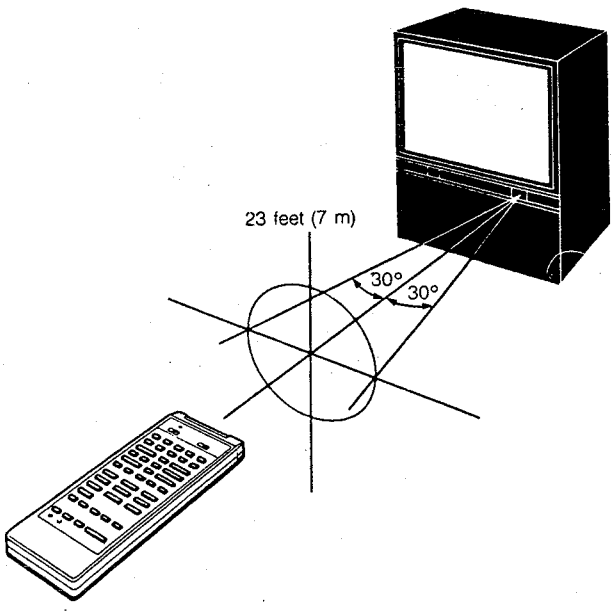
If you adjust the picture quality while the DPO switch is turned on, the DPO function is automatically turned off.

BLOCK DIAGRAM



REMOTE CONTROL OPERATION RANGE

- Point the remote control unit toward the front of the Projection Monitor when you press any of the control keys.
- The remote control unit should be effective at distances of up to about 23 feet (7 meters) from the Projection Monitor and at angles of up to about 30 degrees from a line perpendicular to the front panel.
- Furniture and other obstacles may block the infrared light beam so that it cannot reach the sensor on the Projection Monitor's front panel.
- If there is no response even when the remote control is used directly in front of the Projection Monitor, the alkaline dry cell batteries may need replacement. (See page 7.)



TROUBLESHOOTING

Please check the following chart and try the suggested solutions before consulting a PIONEER authorized service center.
Often you can fix the problem by making a simple adjustment on the Projection Monitor. Faulty connections may be to blame. Or it may be another piece of equipment that is causing the trouble.

SYMPTOM	POSSIBLE CAUSE AND SUGGESTED SOLUTION
NO PICTURE	AC power cord is not plugged into the wall socket. **Plug in the AC power cord.** Power switch is off. **Turn on the power switch on the Projection Monitor. Or turn on the power switch on the remote control unit.** Selected video signal source is not connected to input jacks, or source unit (VCR, etc.) is not turned on or is not providing a signal. **Check connections and source unit operation.**
COLOR IS WASHED OUT	Color value is too low. **Use PICTURE key and ADJUST key to increase COLOR value.** Brightness value is too high. **Use PICTURE key and ADJUST key to reduce BRIGHT value.**
COLOR TINT IS WRONG	Tint value is too high or low. **Use PICTURE key and ADJUST key to adjust TINT value.**
STATIC IN TV PICTURE	Interference from motor vehicles, neon signs, etc. **Try changing the height or direction of the TV antenna. Move the antenna away from the source of interference.**
GHOSTING ON SCREEN	This "multipath" distortion is caused when the TV signal is received along two paths, directly and after being reflected from tall buildings, mountains or other obstacles. Strong winds may have changed the direction of the TV antenna. **Try changing the height or direction of the antenna. An antenna with better directional characteristics may be required.**
COLORED STRIPES ON SCREEN	Interference from other radio or TV signals. **Try changing the height or direction of the antenna. Try changing to a coaxial antenna cable. Coaxial cable is shielded to minimize pickup of interfering signals.**
COLORED EDGES ON IMAGES	Color convergence needs adjustment. **Tune in a channel, select CONVERGENCE from among the menu items and adjust by using the convergence controls on the remote control unit.** (See page 14 for details.)
UNCLEAR PICTURE	Connections are loose or cables are damaged. **Check connections and try using new cables.** Antenna may be damaged. **Check antenna.**
POOR PICTURE OR COLOR QUALITY	Interference from a nearby speaker or other source of magnetism. **Move source of interference away from the monitor.**
NO SOUND	Rear panel SPEAKER SELECTOR is set to EXT, but external speakers are not connected. **Set selector to INT.**
NO ON-SCREEN CHANNEL OR OTHER DISPLAY; SLEEP TIMER DOESN'T OPERATE	Strong light striking the remote control sensor may cause the internal microcomputer to malfunction. **Change the position of the Projection Monitor or the change the lighting so that the sensor is not exposed to strong light sources.**

• With some VCR, when the VCR is not in play mode, the screen sometimes fluctuates. This is not a malfunction.

CARE OF YOUR PROJECTION MONITOR

DO NOT:

- Do not use strong cleansers, solvents, polishes, or chemically treated cloths to clean the screen or cabinet.
- Do not touch or scratch the screen.
- Do not fasten or place rubber or vinyl items on the monitor.
- Do not use tape on the monitor.

DO:

- Use a soft cloth to dust the screen and cabinet.
- If necessary, unplug the monitor and wipe with a soft cloth moistened with warm water (and mild soap if dirt has built up). Dry with a soft, dry cloth.
- Treat the screen with care to avoid scratches or damage.
- Ask your local dealer to clean the interior of the monitor if maximum picture brightness decreases. This may be caused by dust build-up inside.

SD-P503P-QD, -WD, -Q, -W, -R, SD-P503FP-Q, SD-P453P-Q, SD-P453FP-Q

SPECIFICATIONS

DISPLAY SECTION

Reception system .... American TV standard NTSC system
Screen size ..... 50″ (SD-P503)
45″ (SD-P453)
CRT ..... 7″ CRT x 3
Brightness (White peak) ..... 320 (SD-P503)/
370 (SD-P453) Foot-Lambert
[100% Window signal input contrast, bright Max.]
Actual viewing angle ..... Horizontal H = 140°
Vertical V = 60°
Horizontal resolution
720 lines (SD-P503)
700 lines (SD-P453)
[Input digital test pattern (900 lines resolution)]
Input terminals ..... 4 video input systems,
S (VIDEO) input jack (Y/C separate INPUT) x 2
4 audio input systems
Output terminals ..... Video output, audio output
(Recording)
System remote control terminal ..... OUT
Input signal ..... Video signal: 1.0Vp-p ±0.2V
(75 ohms load)
Audio signal: 500mVrms
Input impedance ..... Video input: 75 ohms ±10%
Audio input: 50 k ohms or more
Input signal polarity ..... Synchronized negative
Output terminal signal ratings:
Output terminals (except VIDEO 1) .....
Video signal: 1Vp-p (75 ohms load)
Audio signal: 500mVrms (100% modulation)
Output impedance..... Video output: 75 ohms ±10%
Audio output: 15 kohms or more
Audio output terminal..... Audio signal: 630mVrms
(VARIABLE) (100% modulation Volume MAX.)

TUNER SECTION

Circuit type..... Video signal detection:
PLL full synchronous detection
PLL Digital Synthesizer system
Audio multiplex: BTSC system
Reception channels.....
VHF; CH2~CH13, UHF; CH14~CH69
CATV (STANDARD, AIR or HRC switchable)
CATV A-6 CH~CCC (W+29) CH
Antenna terminals .....
ANTENNA 1, 2 terminal, 75 ohms UNBAL, F-type connector
(VHF, UHF MIXED)

AMPLIFIER SECTION

Effective output (both channels driven)
10W + 10W (THD. 1% 50Hz to 15,000Hz, 8 ohms)
Tone control: BASS..... +8dB, −10dB (100Hz)
TREBLE..... +8dB, −10dB (10kHz)
Built-in speaker system .. 16cm (6-1/2in) mid-low range x 2
6 cm (2-3/8in) high range x 2
External speaker impedance ..... 8 ~ 16 ohms

ELECTRICAL SECTION, MISCELLANEOUS

Power requirements ..... AC 120V, 60Hz
Power consumption..... 260 W
External dimensions
SD-P503P-QD/SD-P503P-WD
1182 (W) x 694 (D) x 1373 (H) mm
46-9/16 (W) x 27-15/16 (D) x 54-1/16 (H) inch
SD-P503P-Q/SD-P503P-W
1170 (W) x 682 (D) x 1347 (H) mm
46-1/16 (W) x 26-7/8 (D) x 53-1/16 (H) inch
SD-P503FP-Q
1182 (W) x 700.5 (D) x 1353 (H) mm
46-9/16 (W) x 26-9/16 (D) x 53-1/4 (H) inch
SD-P503P-R
1169 (W) x 681 (D) x 1346 (H) mm
46 (W) x 26-13/16 (D) x 53 (H) inch
SD-P453P-Q
1068 (W) x 642 (D) x 1271 (H) mm
42-1/16 (W) x 25-1/4 (D) x 50-1/16 inch
SD-P453FP-Q
1080 (W) x 660.5 (D) x 1277 (H) mm
42-1/2 (W) x 26 (D) x 50-1/4 (H) inch
Weight of main unit
SD-P503P-QD/SD-P503P-WD ..... 115 kg (253 lb 9 oz)
SD-P503P-Q/SD-P503P-W..... 96.5 kg (212 lb 13 oz)
SD-P503FP-Q..... 97.0 kg (213 lb 14 oz)
SD-P503P-R ..... 96.5 kg (212 lb 13 oz)
SD-P453P-Q..... 86.5 kg (190 lb 12 oz)
SD-P453FP-Q..... 87.0 kg (191 lb 13 oz)

ACCESSORIES

Operating instructions..... 1
FP model operating guide
(for FP model only)..... 1
Remote control unit operating instructions..... 1
Warranty card..... 1
Remote control unit 1
AM-3, "AA" size (IEC LR6 1.5V) Alkaline dry cell
batteries 2
Important Safeguards card 1

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

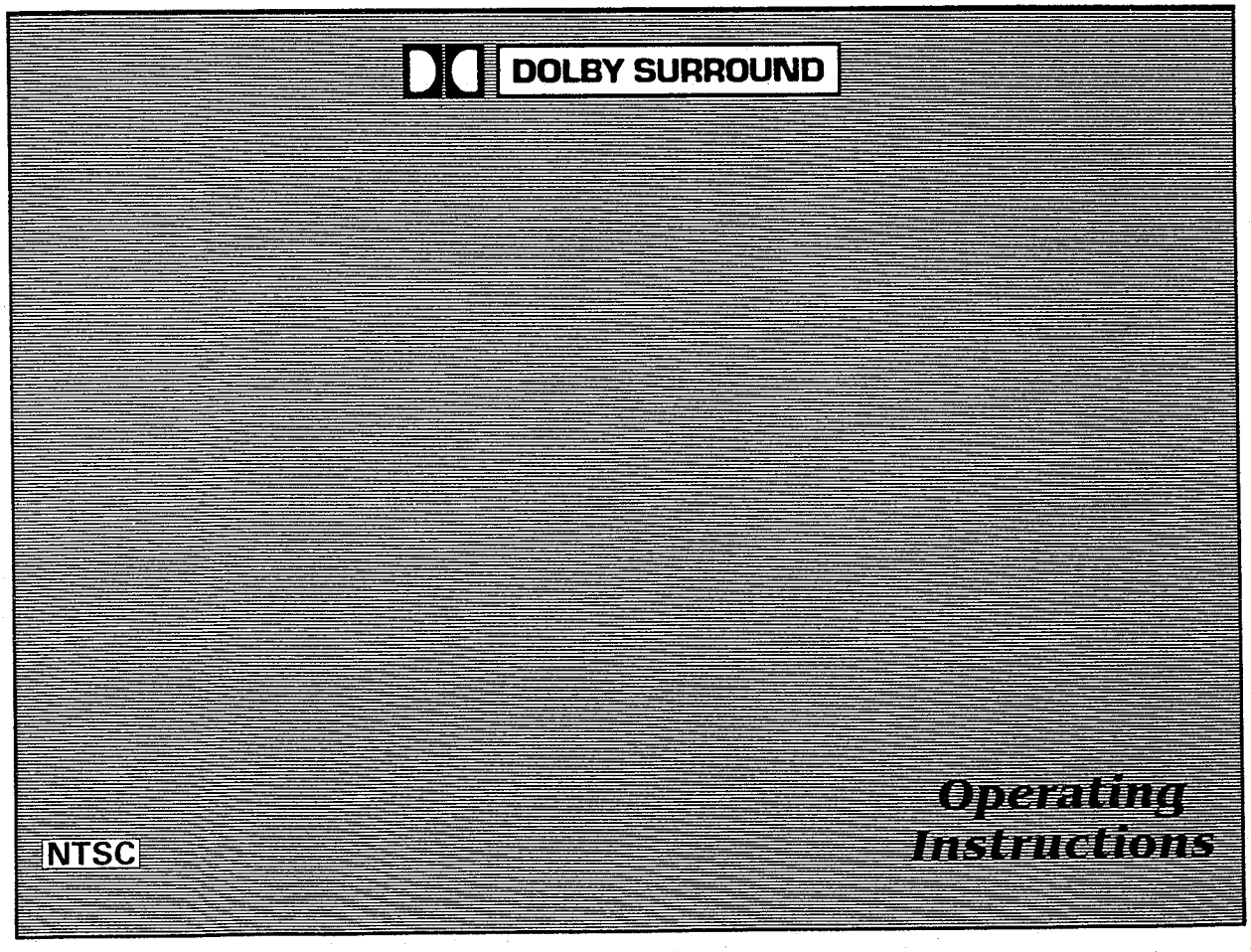
SD-P503S-Q
SD-P453S-Q

PIONEER®
The future of sound and vision.

- SD-P503S AND SD-P453S DIFFER FROM SD-P503FP, SD-P453FP, SD-P503P AND SD-P453P IN THEIR FEATURES.
  ONLY THESE DIFFERENT FEATURES ARE DISCRIBED IN HERE.
- SD-P503S AND SD-P453S DO NOT HAVE PICTURE-IN-PICTURE FUNCTION.

PROJECTION MONITOR RECEIVER

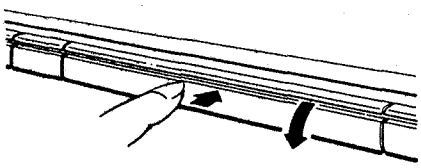
SD-P503S/SD-P453S

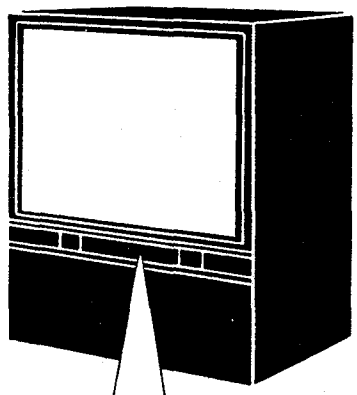


FRONT PANEL FACILITIES

A flip-down door conceals the control panel. Push gently and release to open the door.
To close the door, lift it back up into place.

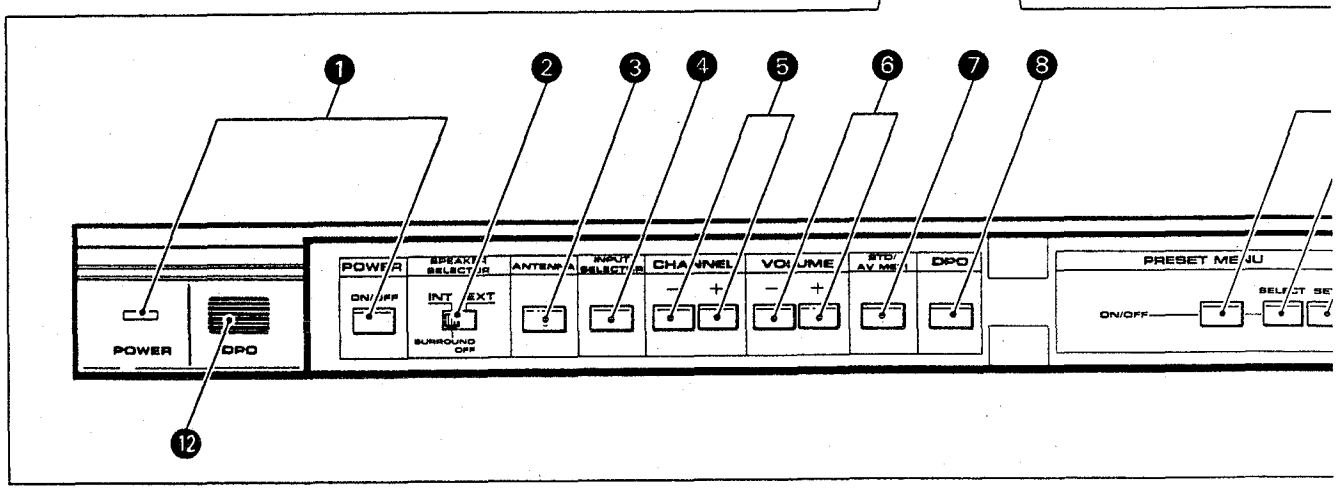
Push and release to open.





NOTE:
• If you accidentally pull the door open, it may not shut properly. Push in when shutting the door to restore normal operation.

Control Panel



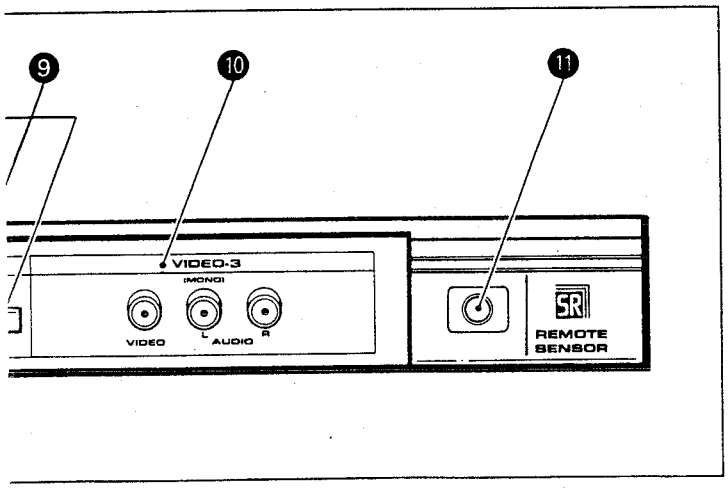
★ Use the remote control unit to operate most functions. See the separate operating instructions for the remote control unit.

FRONT PANEL FACILITIES

❶ POWER SWITCH AND INDICATOR
Press once to turn on the power. Press again to turn the power off. The POWER indicator illuminates when the power is on. This unit is equipped with an Auto OFF circuit. 30 minutes after the input signal is not supplied (for example, the TV broadcast being received terminates broadcasting) the power automatically turns off.

❷ SPEAKER SELECTOR
This lets you select either the built-in speaker or external speakers. (See pages 32 and 33.)

NOTE:
- *Set to INT when using the built-in speakers. Do not use the INT setting if using speakers connected to the rear the panel external speaker terminals in DOLBY SURROUND or Dynamic Phase Surround sound reproduction system. (No sound will be heard from the external speakers.)*
- *Set to EXT if using external speakers, an external audio system, or surround speakers. At the EXT setting, no sound comes from the internal speakers.*



❸ ANTENNA BUTTON
Press to switch between the sources you have connected to the ANTENNA-1 and ANTENNA-2 terminals. This is convenient, for instance, when switching between regular broadcast TV and cable TV.

❹ INPUT SELECTOR BUTTON
Press to select your program source: TV, video disc player (VDP), VIDEO 1, VIDEO 2 or VIDEO 3. Each press of the button changes the selection to the next source.

❺ CHANNEL BUTTONS
Press plus (+) or minus (−) to tune to a higher or lower channel. Only those channels in tuner preset can be tuned in by this method. (See pages 15 and 20 for details.)

❻ VOLUME BUTTONS
Press the plus (+) or minus (−) button to raise or lower the volume.

❼ STD/AV MEM (Memory) BUTTON
Press to switch between the standard (STD) picture/sound settings and the AV MEMORY 1 and AV MEMORY 2 settings which have been input with the MENU SET button.

❽ DPO (Dynamic Picture Optimizer) BUTTON
You can turn DPO on or off as desired. When DPO is on, it automatically adjusts the picture to compensate for room illumination. (See page 22 for details.)

❾ PRESET MENU BUTTONS
These buttons are used to perform the following functions: color convergence, tuner presetting, TV-CATV selection, and AV memory storage. For details, refer to the description of each function.

ON/OFF: Press to turn the Menu (functions above) on and off. When the button is pressed on, the function names CONVERGENCE, AV MEMORY, TV-CATV MODE and TUNER PRESET are displayed on the screen.

SELECT: Press to select the function to be operated. The selected function is displayed in red.

SET: Press to memorize the setting.

❿ INPUT JACKS (VIDEO-3)
These front panel jacks are handy for a portable VCR or other temporary video source connection.
When the audio signal of the source to be connected is monaural, connect the L (MONO) jack.

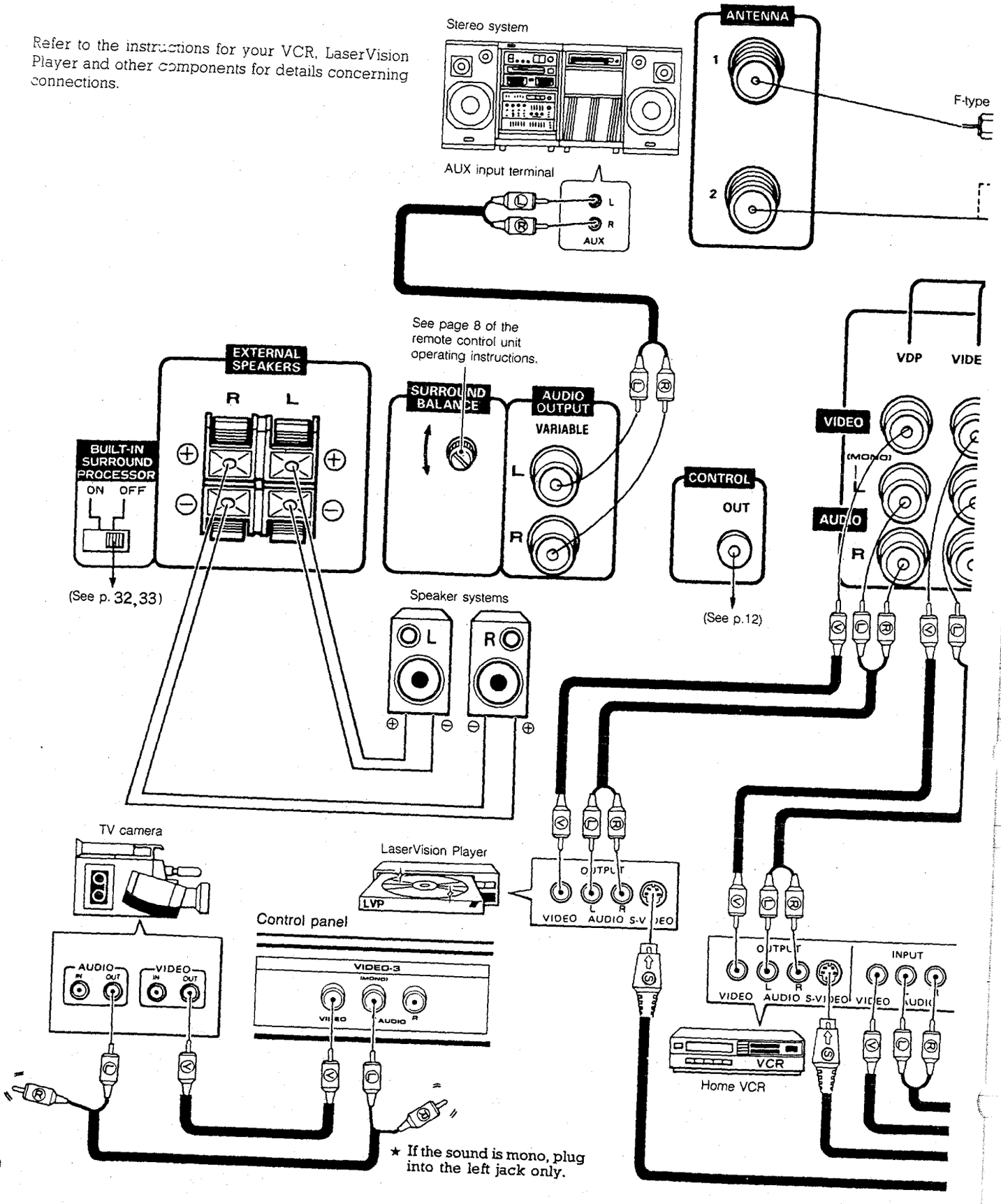
⓫ REMOTE CONTROL SENSOR
This sensor picks up infrared signals from the remote control unit.

⓬ DPO SENSOR
This detects ambient lighting for the DPO (Dynamic Picture Optimizer) circuit which optimizes the TV picture accordingly.

NOTE:
- *Very seldom, an electrical discharge may occur inside the CRT. It makes a short, sharp pop and results in a 1- or 2-second power failure. The power will return automatically. You need not worry about the discharge for it is not a defect. It will disappear with regular use.*

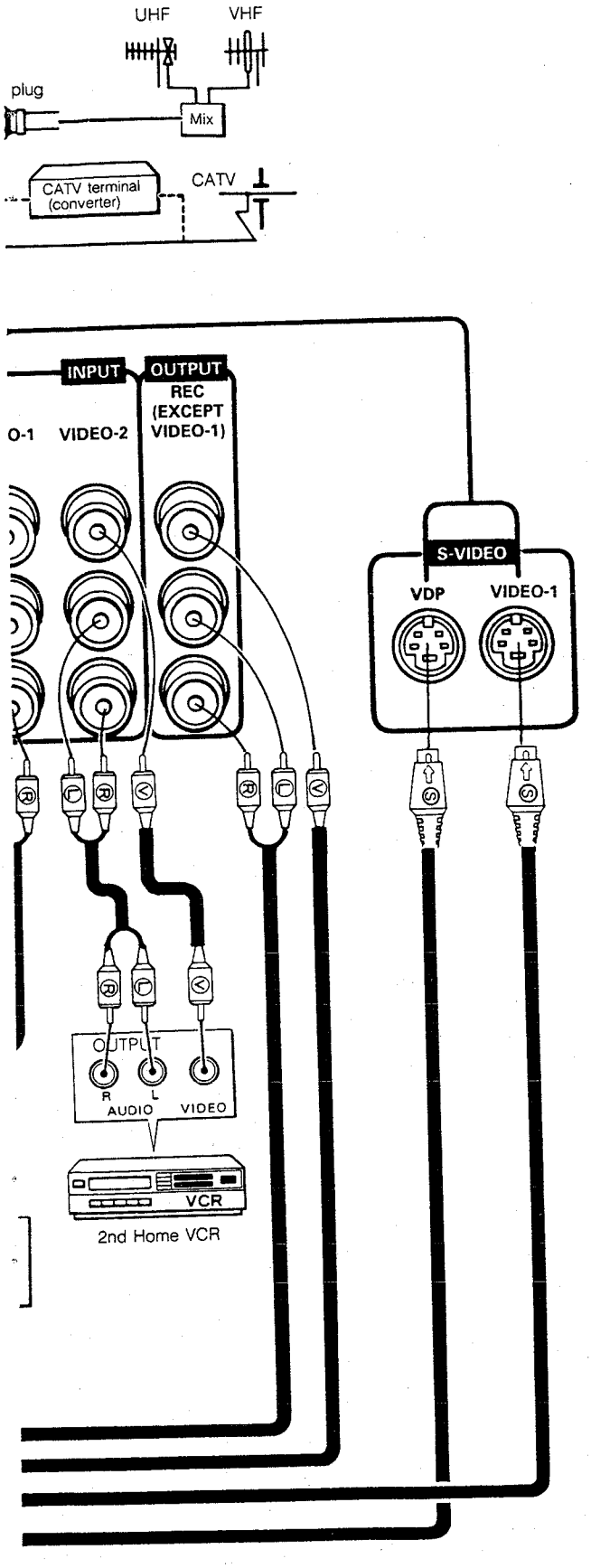
SYSTEM CONNECTION DIAGRAM

Refer to the instructions for your VCR, LaserVision Player and other components for details concerning connections.



★ If the sound is mono, plug into the left jack only.

SYSTEM CONNECTION DIAGRAM



INPUT JACKS

These are three sets of inputs for VCRs, LaserVision players, and other video sources. Use RCA-type pin plug cords (same as those used in hi-fi systems) for connections.

- When the audio signal of the source to be connected is monaural, connect the source to the L-(MONO) jack.

OUTPUT JACKS

These are used for connecting a VCR for recording, or for linking to another monitor. These jacks output the video and audio signals of the source currently selected by the INPUT SELECTOR.
If you have one VCR, connect these output jacks to your VCR's inputs. Connect the VCR's outputs to the monitor's VIDEO-1 inputs.

NOTE:

- ***If a VCR is connected to the VCR2 input, then that VCR should not be connected to these outputs. The design of some VCRs causes an oscillation feedback loop in such situations.***

CONTROL OUT JACK

This jack is used to extend remote control to other PIONEER equipment bearing the SR (System Remote) mark.
Use mono miniplug cords (available at audio and video shops) to connect the monitor's CONTROL OUT jack to the CONTROL IN jack of the other unit. The other unit can be connected to still another in the same manner, from the CONTROL OUT jack of one to the CONTROL IN jack of the other. If a unit has only a CONTROL IN jack then put that unit last in the sequence. Otherwise, you may connect in any order that is convenient.
If another unit has the SR mark and its own remote control sensor, then the CONTROL OUT/IN jack connection is not required. However, this connection may improve the response of remote control, since you will not need to point the remote control unit at different components.
(See page 12.)

AUDIO OUTPUT (VARIABLE) JACKS

These jacks output the audio signal from the video program material currently selected for viewing on the monitor. Connect these audio output jacks to the AUX input jacks of your stereo system. You can then use the remote control unit to adjust the volume.

S-VIDEO INPUT JACKS

Use the S-VIDEO VIDEO-1 jack for input of S-VHS or ED Beta VCR video signals.
Use the S-VIDEO VDP jack for inputting signals from a LaserVision player having an S output jack.
When making S-VIDEO connections for either a VCR or a LaserVision player, be sure to also keep the standard VIDEO and AUDIO connections between the VCR/LaserVision player and the Projection Monitor.

EXTERNAL SPEAKERS TERMINALS (R, L)

For connection of external speakers (purchased separately).

BUILT-IN SURROUND PROCESSOR SWITCH

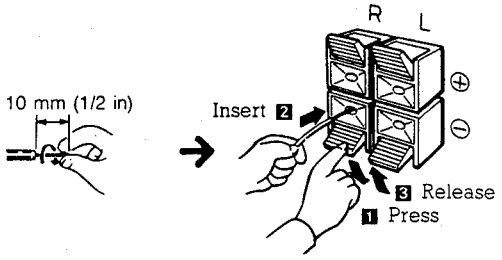
When external speakers are used, set this switch to the "OFF" position. When a source is played with the Surround system, set this switch to the "ON" position.

SPEAKERS

CONNECTING EXTERNAL SPEAKER WIRES

Strip each wire so that about half an inch is exposed. Twist the core.

Turn off the power of the monitor and connected equipment.
Press the lever, insert the wire, and release the lever to lock the wire into place. Pull gently on the wire to check that it is securely connected.



Do this for each wire. Be careful to connect the right speaker's plus and minus terminal wires to the "R" "+" and "−" terminals. Likewise, connect the left speaker's plus and minus terminal wires to the "L" "+" and "−" terminals.

Precautions

- Be sure that exposed wires do not protrude and touch each other.
- If you do not hear a normal stereo image when listening to a stereo program, it may be because the "+" and "−" connections are reversed for one of the external speakers.
- Be sure that the right speaker is connected to the "R" terminals and the left speaker to the "L" terminals. Be sure that each speaker's two wires are properly connected to the appropriate "+" and "−" terminals.

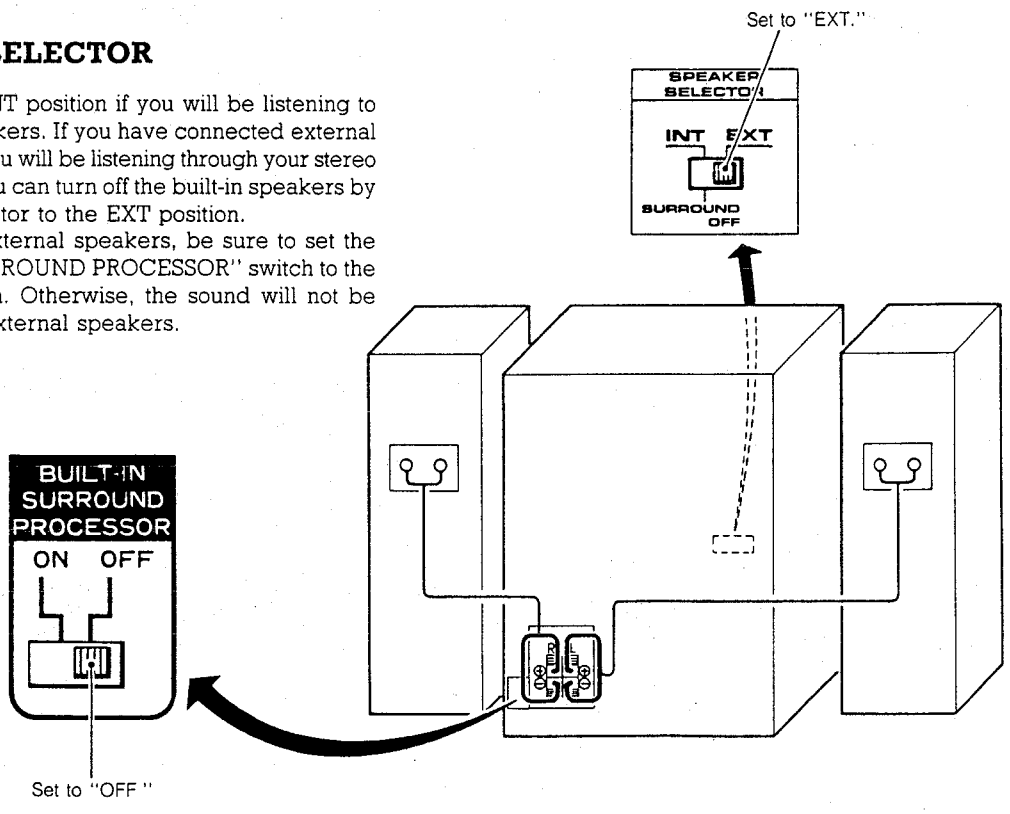
NOTES:

- *Use speakers having an impedance rating of from 8 ohms to 16 ohms. Speakers having less than 8 ohms impedance may draw excessive current, triggering the monitor's protection circuit. The protection circuit cuts off output to prevent damage in case of short circuits or abnormally low impedance.*
- *Ordinary speakers are not magnetically shielded and may disturb the picture if placed too close to the monitor. Move the speakers about two feet away from the monitor if you notice a problem.*

SPEAKER SELECTOR

Set this to the INT position if you will be listening to the built-in speakers. If you have connected external speakers (or if you will be listening through your stereo system), then you can turn off the built-in speakers by setting the selector to the EXT position.

- When using external speakers, be sure to set the "BUILT-IN SURROUND PROCESSOR" switch to the "OFF" position. Otherwise, the sound will not be output to the external speakers.



SURROUND SPEAKER SYSTEM

What is Surround Sound?

Ordinary stereo sound comes only from speakers in front of your listening position. However, in a concert hall or theater you also hear sound reflected off of walls, floor and ceiling. This reflected and reverberant sound gives the feeling of ambience or spaciousness of a live performance. Surround sound systems reproduce this additional sound information, creating a fuller, more "live" sound.
For details, see the "SURROUND SOUND EFFECT" section of the remote control unit operating instructions.

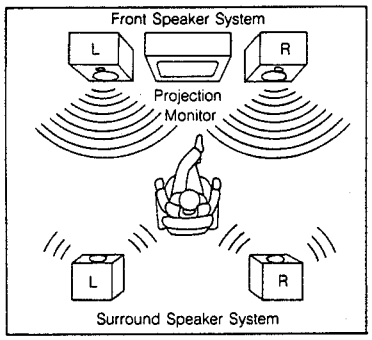
Speaker System Placement

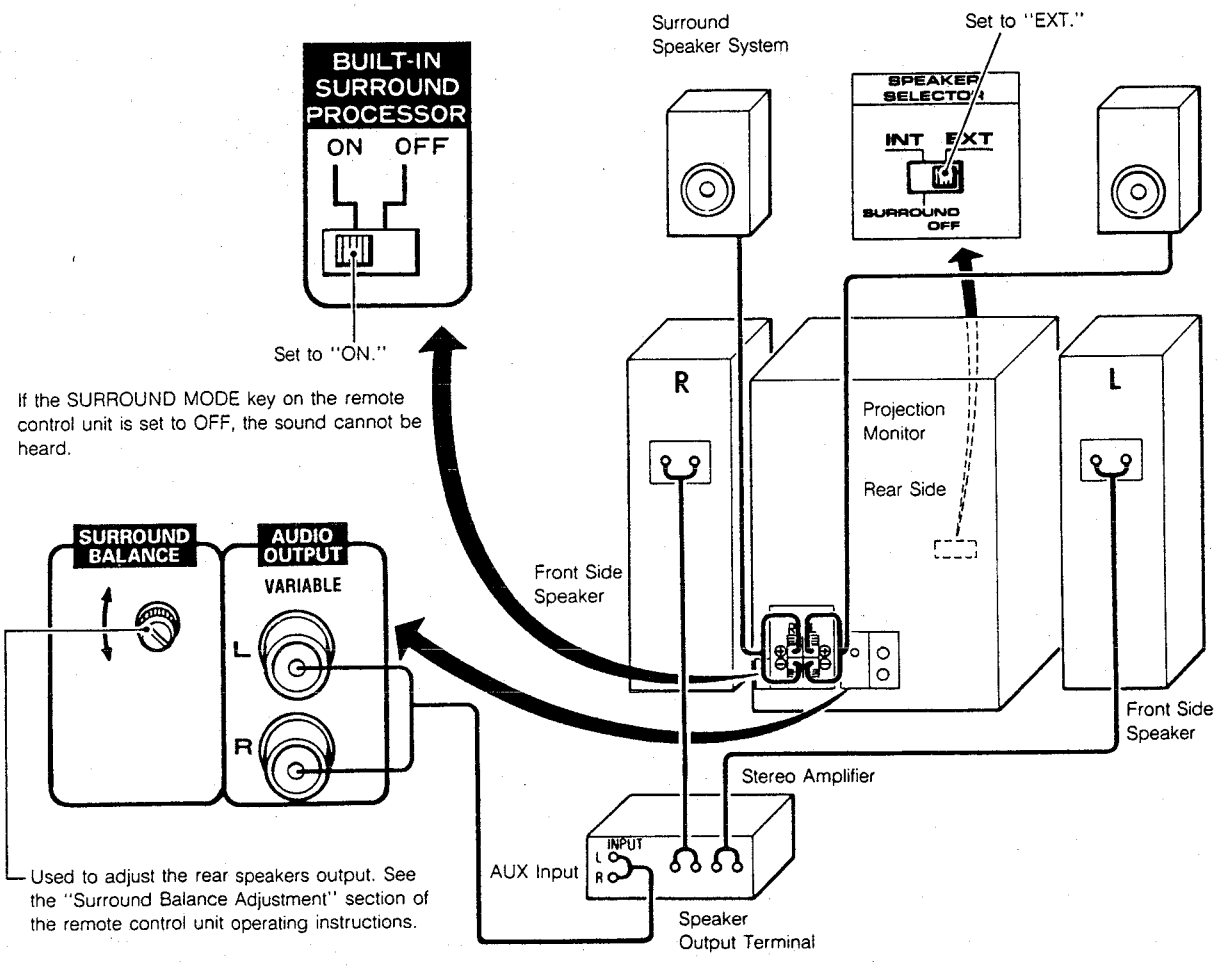
The placement of the speakers in your system — their height, angles, and distances from walls — will have a great effect on the results that you hear. Speakers should be set slightly higher than your ear level when sitting at your viewing position.

Surround System Layout

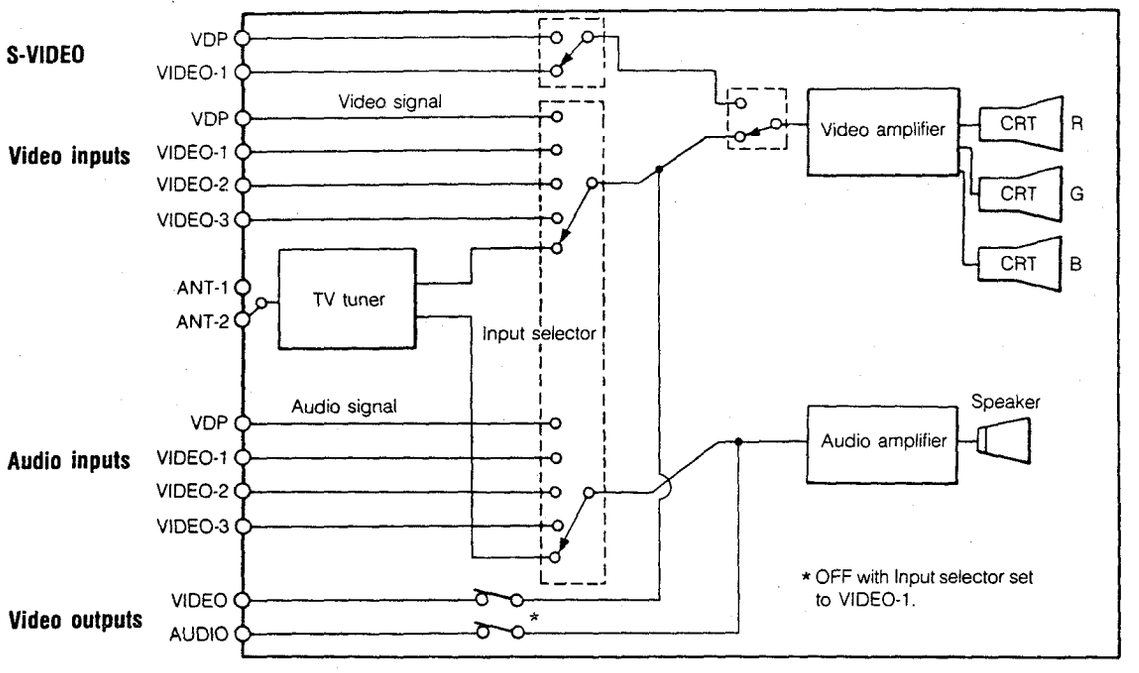
In this diagram you are looking at the system from in back of the monitor. (Therefore, the left and right speakers appear reversed.)
In this surround system connection, the rear surround speakers are connected to the speaker terminals on the rear of this unit. The front speakers are connected to a stereo amplifier which is connected to this unit's audio output jacks.

Constructing a Surround System





BLOCK DIAGRAM



SPECIFICATIONS

DISPLAY SECTION

Reception system .... American TV standard NTSC system
Screen size ..... 50" (SD-P503S)
45" (SD-P453S)
CRT ..... 7" CRT x 3
Brightness (White peak) ..... 320 (SD-P503S)/
370 (SD-P453S) Foot-Lambert
[100% Window signal input contrast, bright Max.]
Actual viewing angle ..... Horizontal H = 140°
Vertical V = 60°

Horizontal resolution
720 lines (SD-P503S)
700 lines (SD-P453S)
[Input digital test pattern (900 lines resolution)]
Input terminals ..... 4 video input systems,
S (VIDEO) input jack (Y/C separate INPUT) x 2
4 audio input systems
Output terminals ..... Video output, audio output
(Recording)
System remote control terminal ..... OUT
Input signal ..... Video signal: 1.0Vp-p ±0.2V
(75 ohms load)
Audio signal: 500mVrms
Input impedance ..... Video input: 75 ohms ±10%
Audio input: 50 k ohms or more
Input signal polarity ..... Synchronized negative
Output terminal signal ratings:
Output terminals (except VIDEO 1) .....
Video signal: 1Vp-p (75 ohms load)
Audio signal: 500mVrms (100% modulation)
Output impedance..... Video output: 75 ohms ±10%
Audio output: 15 kohms or more
Audio output terminal..... Audio signal: 500mVrms
(VARIABLE) (100% modulation Volume MAX.)

TUNER SECTION

Circuit type..... Video signal detection:
PLL full synchronous detection
PLL Digital Synthesizer system
Audio multiplex: BTSC system
Reception channels.....
VHF; CH2~CH13, UHF; CH14~CH69
CATV (STANDARD, AIR or HRC switchable)
CATV A-6 CH~CCC (W+29) CH
Antenna terminals .....
ANTENNA 1, 2 terminal, 75 ohms UNBAL, F-type connector
(VHF, UHF MIXED)

AMPLIFIER SECTION

Effective output (both channels driven)
10W + 10W (THD. 1% 50Hz to 15,000Hz, 8 ohms)
Tone control: BASS..... +8dB, −10dB (100Hz)
TREBLE..... +8dB, −10dB (10kHz)
Built-in speaker system..... Full range 16cm (6-1/2in) x 2
Speaker terminals .....
Also used for surround (rear) speaker connection.
External speaker impedance ..... 8 ~ 16 ohms

ELECTRICAL SECTION, MISCELLANEOUS

Power requirements..... AC 120V, 60Hz
Power consumption..... 255 W
External dimensions
SD-P503S-Q
1170 (W) x 682 (D) x 1347 (H) mm
46-1/16 (W) x 26-7/8 (D) x 53-1/16 (H) inch
SD-P453S-Q
1068 (W) x 642 (D) x 1271 (H) mm
42-1/16 (W) x 25-1/4 (D) x 50-1/16 inch
Weight of main unit
SD-P503S-Q..... 96.5 kg (212 lb 12 oz)
SD-P453S-Q..... 86.5 kg (190 lb 12 oz)

ACCESSORIES

Operating instructions..... 1
Remote control unit operating instructions..... 1
Warranty card..... 1
Remote control unit..... 1
AM-3, "AA" size (IEC LR6) 1.5V Alkaline dry cell
batteries..... 2
Important Safeguards card 1

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

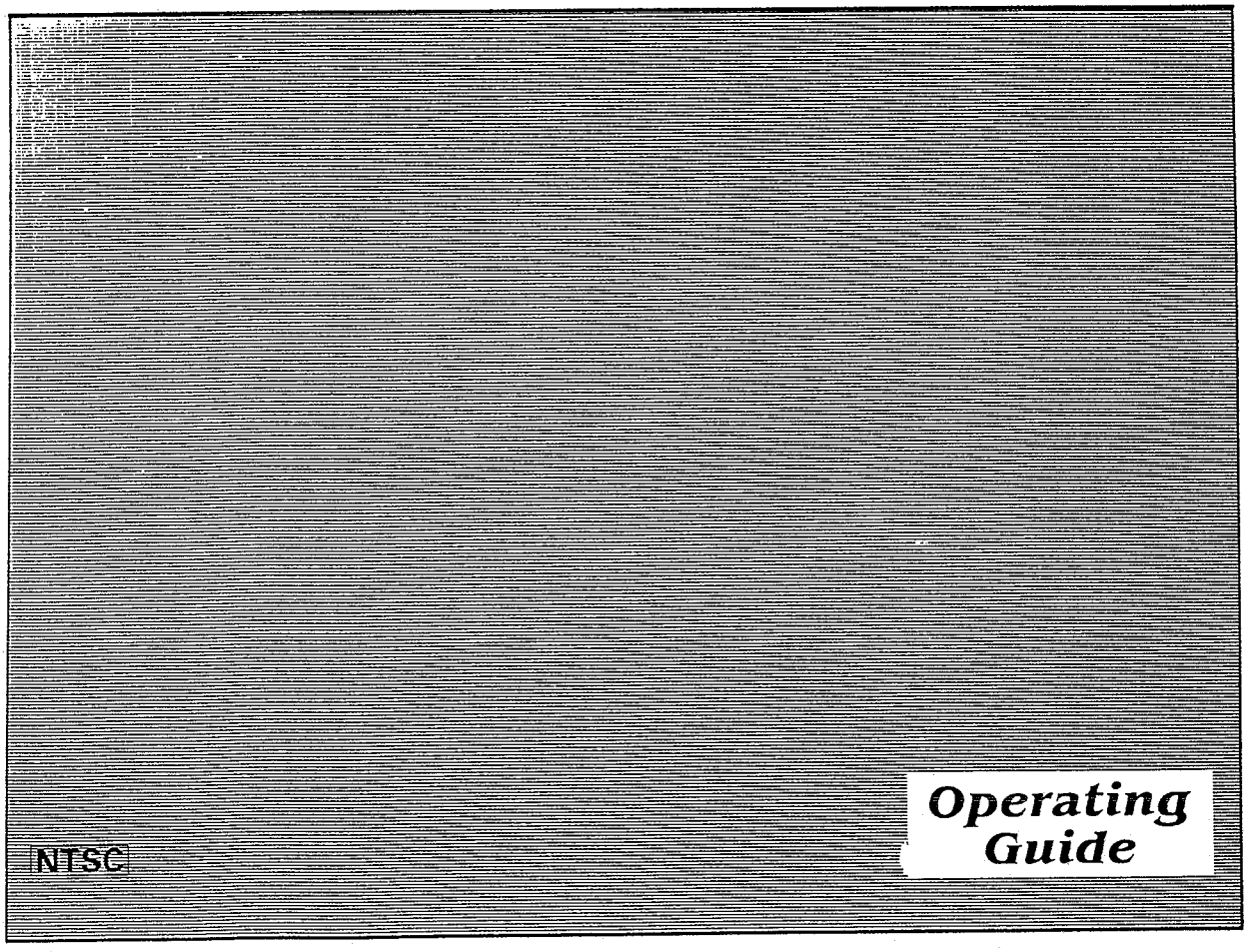
SD-P503FP-Q
SD-P453FP-Q

PIONEER®
The future of sound and vision.

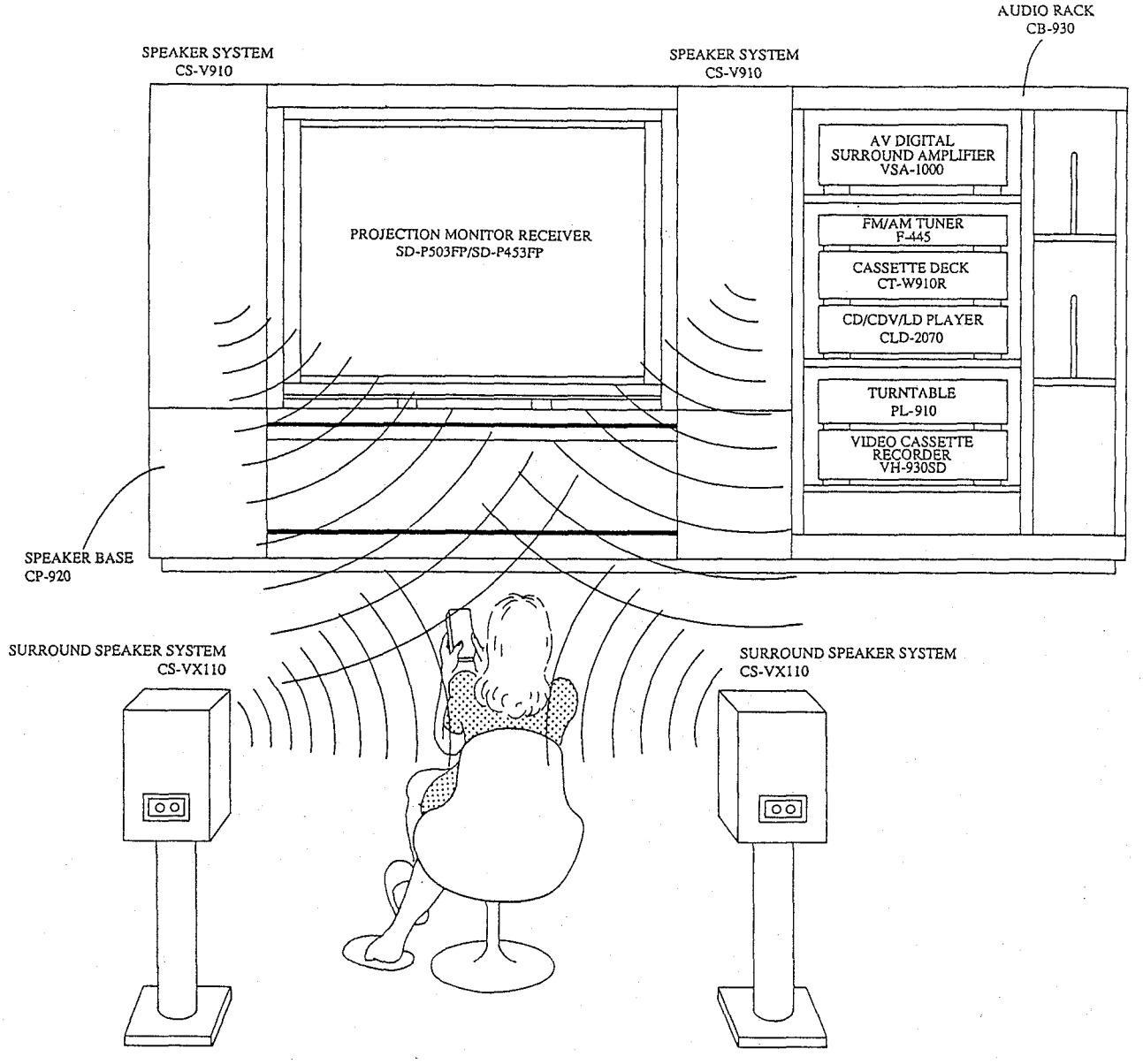
PROJECTION MONITOR RECEIVER

SD-P503FP/SD-P453FP

SYSTEM MANUAL



INSTALLATION

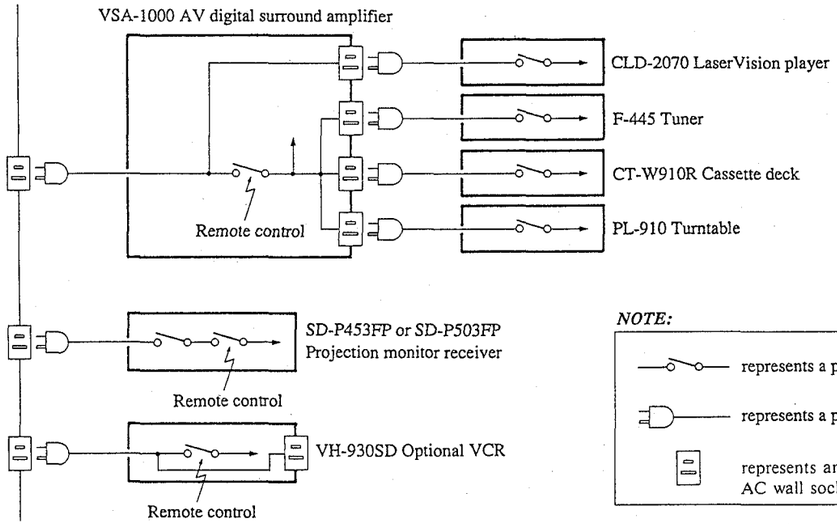


NOTES ON OPERATION

Power switch operation

- Independently connect each of the following components to an AC power source so that their power switches can be switched ON/OFF independently.
  PROJECTION MONITOR RECEIVER SD-P503FP or SD-P453FP
  AV DIGITAL SURROUND AMPLIFIER VSA-1000
  VIDEO CASSETTE RECORDER VH-930SD
  LASERVISION PLAYER CLD-2070

By connecting other components in the system to the SWITCHED outlets on the rear panel of the VSA-1000 and setting the power switches of the connected components to ON, those components can be switched ON/OFF in conjunction with the ON/OFF operation of the VSA-1000's power switch.



NOTE:

represents a power switch.

represents a power cord.

represents an AC outlet or AC wall socket.

NOTE:

- Be especially careful not to forget to turn the power OFF when the system is not in use.

VSA-1000 Input Selector Settings

Audio source playback		Video source playback	
To listen to a cassette tape	TAPE/DAT 1	To view the playback from a laser disc	VDP
To listen to a CD	CD	To watch a TV broadcast	TV
To listen to an AM/FM broadcast	TUNER	To view the playback from a video tape	VIDEO

When playing a CD or CDV on a component such as the CLD-2070, set the input selector to VDP.

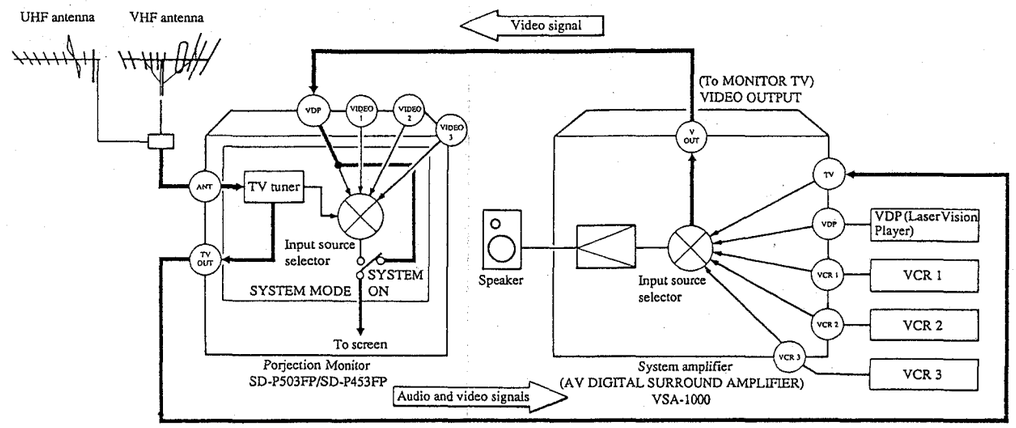
SD-P503FP/SD-P453FP Settings

- Set the Projection Monitor's VOLUME to the maximum level of "63", and leave it at that setting.
- By setting the system mode to SYSTEM ON, the small picture of the Projection Monitor's P-in-P function is fixed at the "TV" setting. Accordingly, when the P-in-P function is activated, the television broadcast currently being received by the Projection Monitor Receiver can be seen in the small picture in the corner of the screen.
- SWAP (exchanging the contents of the small and large pictures when using the P-in-P function) cannot be carried out in the FORESIGHT SYSTEM.

Switching the System Mode

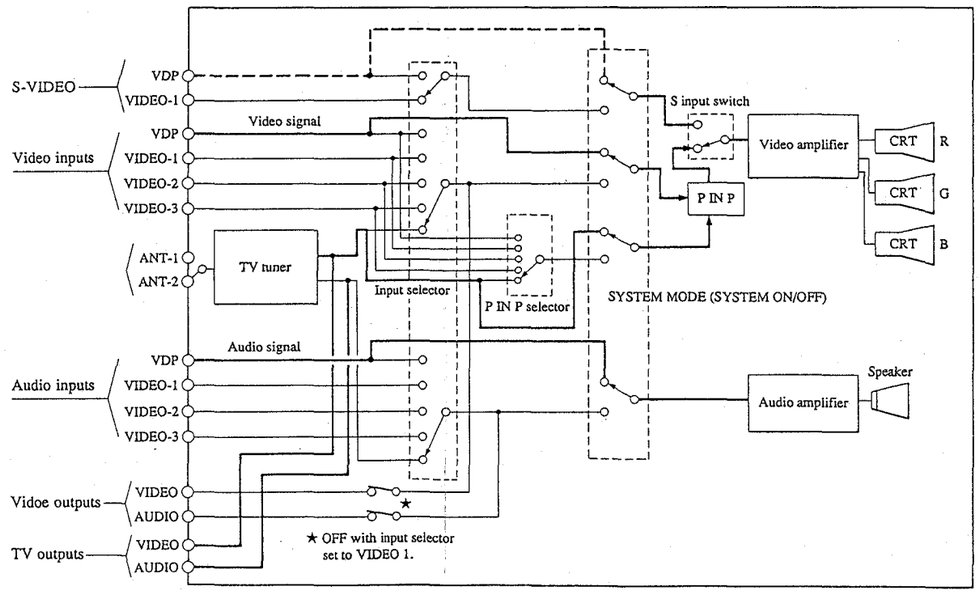
1. Turn on the PRESET MENU ON/OFF button, and press the MENU SELECT button so that the SYSTEM MODE display turns red.
2. Press the MENU SET button so that the SYSTEM ON display appears.
3. Press the MENU ON/OFF button twice (or once).

SIGNAL FLOW DIAGRAM



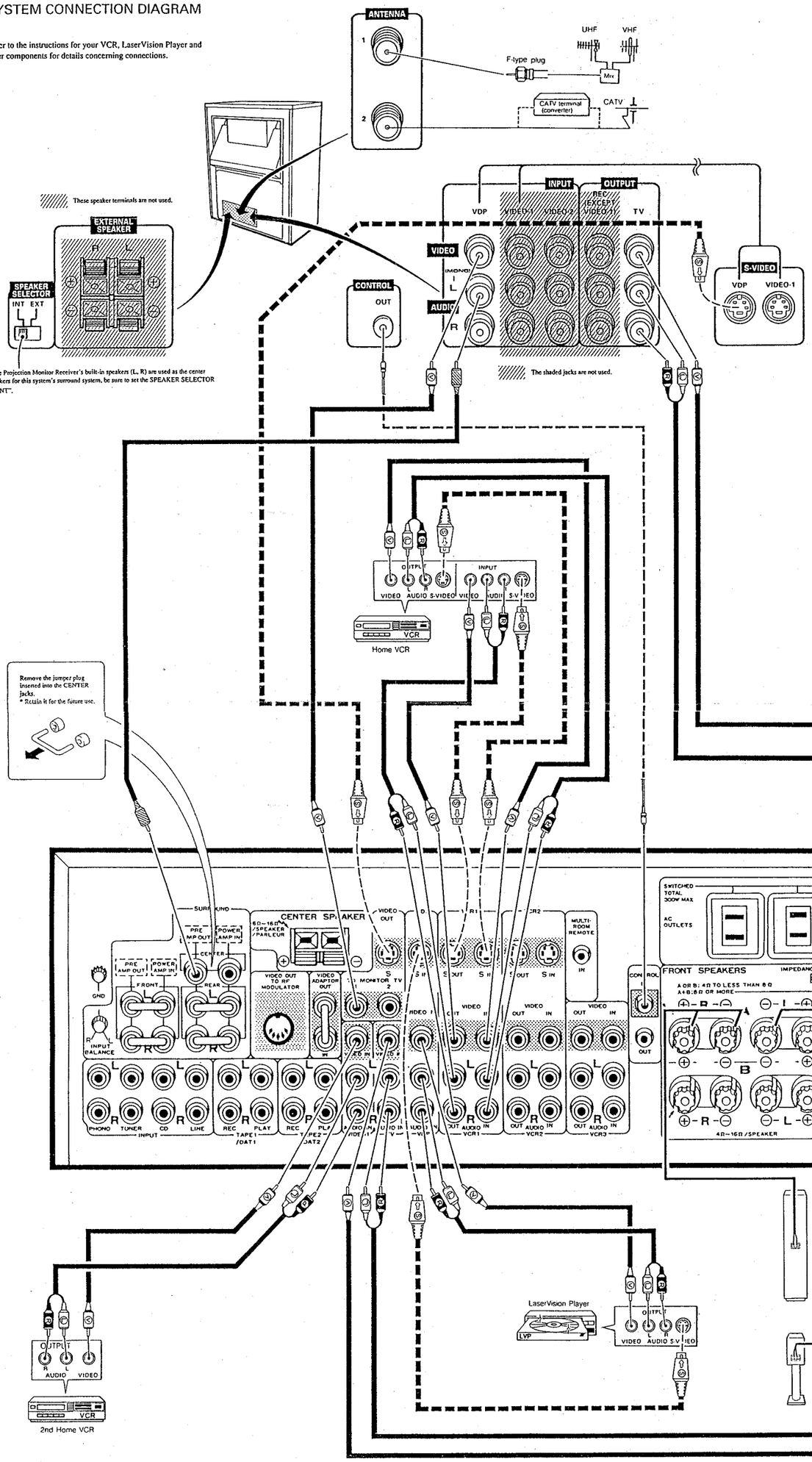
Use commercially available VIDEO/AUDIO cords for connectiions.

PROJECTION MONITOR BLOCK DIAGRAM



SYSTEM CONNECTION DIAGRAM

Refer to the instructions for your VCR, LaserVision Player and other components for details concerning connections.



PROJECTION MONITOR REAR PANEL JACKS

INPUT Jacks

Only the VDP input is used in the FORESIGHT SYSTEM.

VSA-1000		SD-P503FP/SD-P453FP
MONITOR TV 1 jack	<—>	VDP VIDEO jack
PREAMP OUT CENTER jack	<—>	VDP AUDIO L-(MONO) jack

However, if you have several video components you wish to use, the VIDEO-2 and VIDEO-3 inputs can be connected. At that time, be sure to set the SYSTEM MODE to OFF. Refer to the "Switching the System Mode" section for notes concerning operation with several components.

OUTPUT Jacks

In the FORESIGHT SYSTEM, only the TV output is used.

REC EXCEPT VIDEO-1
When the System Mode is set to ON, these jacks output the same signal as the VDP input.

TV
These jacks are the TV OUTPUT jacks provided for use with the FORESIGHT SYSTEM.
TV broadcast signals are output from these jacks to the VSA-1000.
The TV OUTPUT jack connections are shown in the figure at the left.

S-VIDEO Input Jacks

In the FORESIGHT SYSTEM, the video source selected via the input selector on the VSA-1000 can be input to the Projection Monitor using the S-VIDEO (VDP) jack. However, this is possible if the components are connected to the VSA-1000 via S-VIDEO jacks. However, if the components connected to the VSA-1000 can be connected via S-VIDEO jacks, high-quality hi-fi video playback can be enjoyed.

SPEAKER SELECTOR

In the FORESIGHT SYSTEM, be sure that this selector is set to the "INT" position.

EXTERNAL SPEAKERS Terminals (R, L)

These terminals are not used in the FORESIGHT SYSTEM.

NOTES ON CONNECTION

- This system has been upgraded to allow all audio and video sources to be selected using the input selector on the VSA-1000. Also, operation of the Projection Monitor Receiver's P-in-P (Picture-in-Picture) function has been changed slightly.
- With this system, the surround system's center channel output is reproduced from the Projection Monitor's built-in speakers.

NOTE:

- Be sure that the Projection Monitor's system mode is ON. Select SYSTEM MODE from the PRESET MENU and set the status to SYSTEM ON. For details, refer to the "Switching the System Mode" section in this manual.

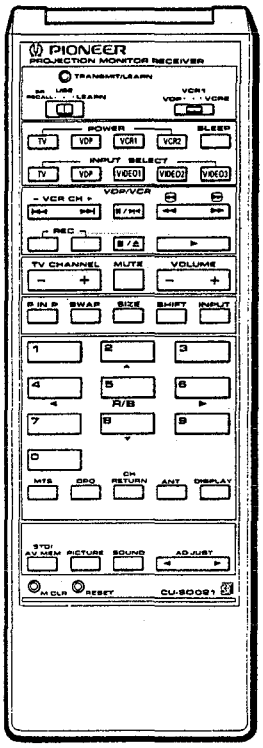
SD-P503P, SD-P453P, SD-P453FP
SD-P503S, SD-P453S

PIONEER
The future of sound and vision.

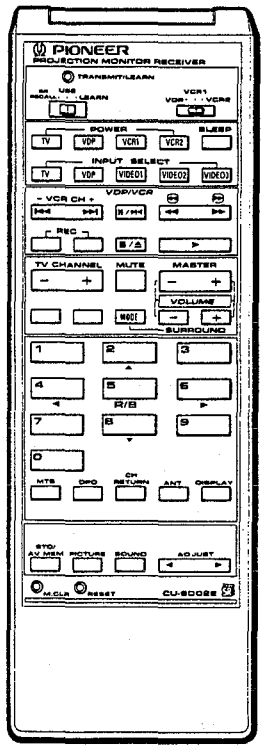
AUDIO VIDEO PROGRAMMABLE REMOTE CONTROL UNIT

CU-SD021
CU-SD022

CU-SD021



CU-SD022



Introduction

Thank you for choosing Pioneer to meet your home entertainment system needs. Through using the diverse functions of the accompanying remote control unit, you will undoubtedly discover that with it you have a small piece of equipment that provides a very large boost to your enjoyment of home audio and video.
It can only be effective, however, if your components have functions that correspond to its keys and are infrared remote-controllable.

The CU-SD021 remote control unit is supplied with the SD-P503P, SD-P503FP, SD-P453P, and SD-P453FP projection monitor receivers. The CU-SD022 remote control unit is supplied with the SD-P503S and SD-P453S projection monitor receivers.

Operating Instructions

Contents

Handling the Unit 2
Basic Operation 3
Projection Monitor Operation 4
VDP Operation 8
VCR Operation 9
Programming Commands 10
Specifications 13

Handling the Unit

Effective Range

The unit may be used from anywhere within a distance of approximately 23 feet (7 meters) from the remote sensor of the receiving component within angles of approximately 30 degrees on either side of the sensor. (The front of the unit should be pointed at the front panel of the receiving component.)

NOTE:

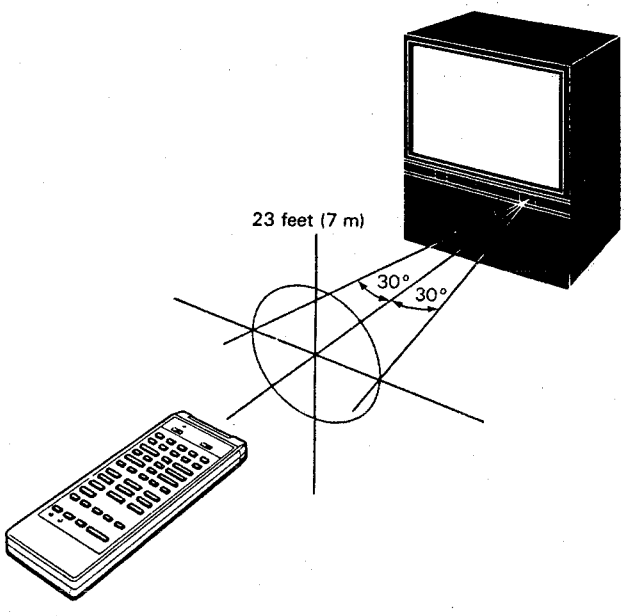
These figures are general and do not necessarily apply to programmed commands.

Battery Replacement

If the TRANSMIT/LEARN indicator does not light when you press a key, try pressing the RESET button and re-attempting your command. If the indicator still doesn't light, the batteries are low and should be replaced as soon as possible.

NOTES:

- *As the unit power switch is connected to the battery compartment cover, the unit will not operate without the cover even if the batteries are loaded, and memory will only be retained for approximately 15 minutes (even if the batteries are loaded). Never close the cover when the batteries are not loaded. The programmed commands will be lost within a few seconds if you do so.*



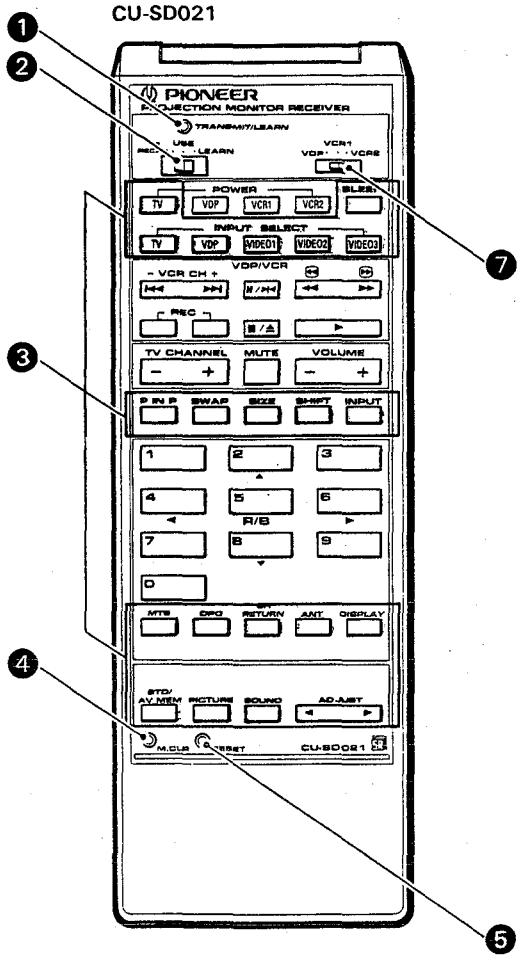
BASIC OPERATIONS

Besides controlling your projection monitor, the Pioneer Programmable Remote Control Unit can also control any audio or video appliance that has an infrared remote control unit, when you follow a simple procedure of programming the other unit's remote control commands into the Pioneer Programmable Remote Control Unit. Moreover, any LD Player, VCR, or audio component bearing the Pioneer SR mark can be operated with this unit with no additional programming.
Before you begin, please read the following basic operating instructions carefully and familiarize yourself with the functions of the CU-SD021 or CU-SD022.

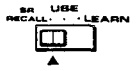
❶ TRANSMIT/LEARN Indicator

Flashes when commands are being sent in the USE or SR RECALL modes of the LEARN MODE selector. In the LEARN mode, however, it:
- lights when ready to accept programming information, and
- flashes to signal that you have chosen an incorrect key to store a command you wish to program or when the memory is full.

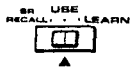
CU-SD021



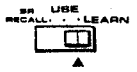
❷ LEARN MODE Selector



Set here to command Pioneer equipment marked with the SR mark. (No memory function)



In this mode the remote is able to command other components with commands you input through the LEARN function as well as Pioneer SR equipment.



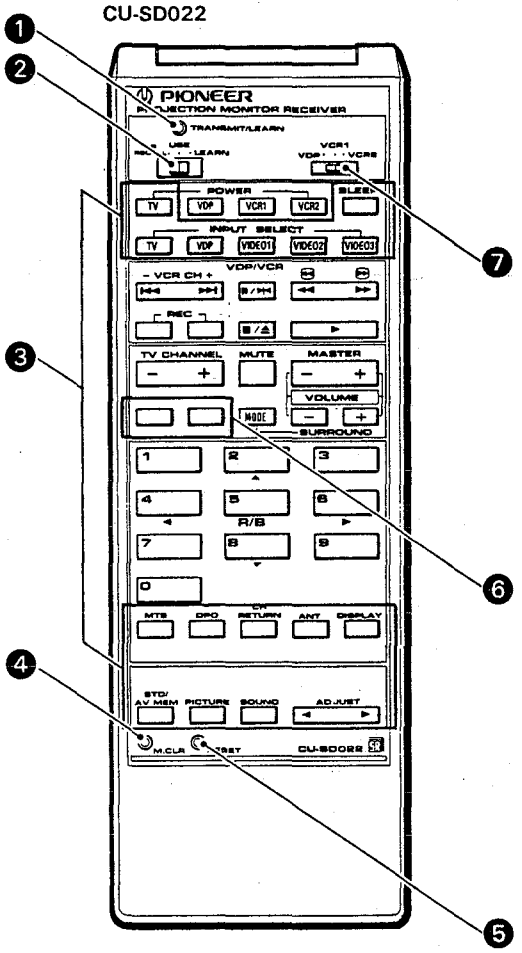
This setting activates the capability of the unit to "learn" and store command codes from other remote control units.

❸ These keys are for use only in operation of the projection monitor, and cannot be used to store commands from other remote control units.

❹ M.CLR Button

Erases all commands programmed through the LEARN function; press lightly with the tip of a fine-point pen or other fine-tipped instrument to activate when in learn mode.

CU-SD022



❺ RESET Button

If, during programming of a command, you store a command with a key other than that with which you wanted to store, this button will clear just that mistake so you may correct it.

NOTE:

Very seldom, an electrical discharge may occur inside the unit, causing some command malfunction. In the event of such an occurrence, pressing RESET should correct the problem. The possibility exists, however, that instead of correcting the problem, pressing RESET may erase the programmed memory.

❻ Excess Storage Keys (CU-SD022 only)

These keys have no set function, and will hold one programmed command each when all the other eligible keys are occupied.

❼ TRANSMIT MODE Switch

Set to the position that corresponds to the component you wish to operate.

To control the LD Player.

To send commands to VCR 1.

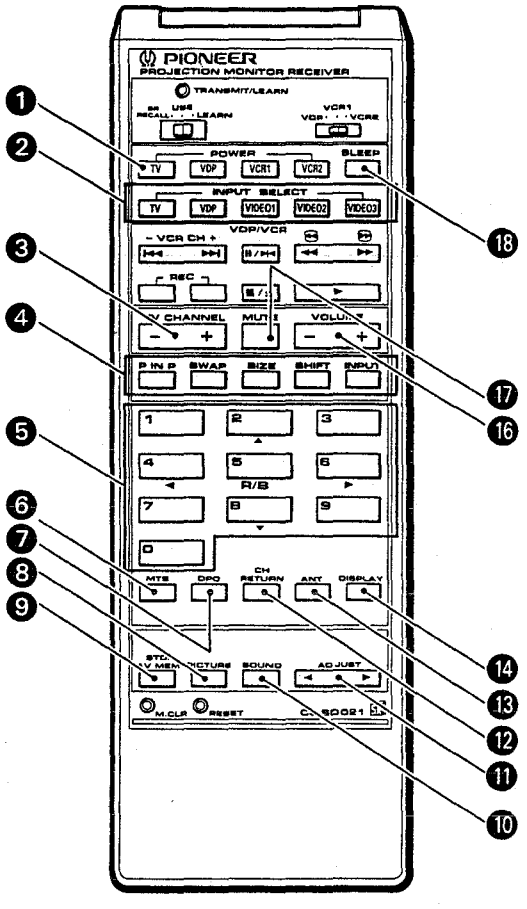
To send commands to VCR 2.

PROJECTION MONITOR OPERATION

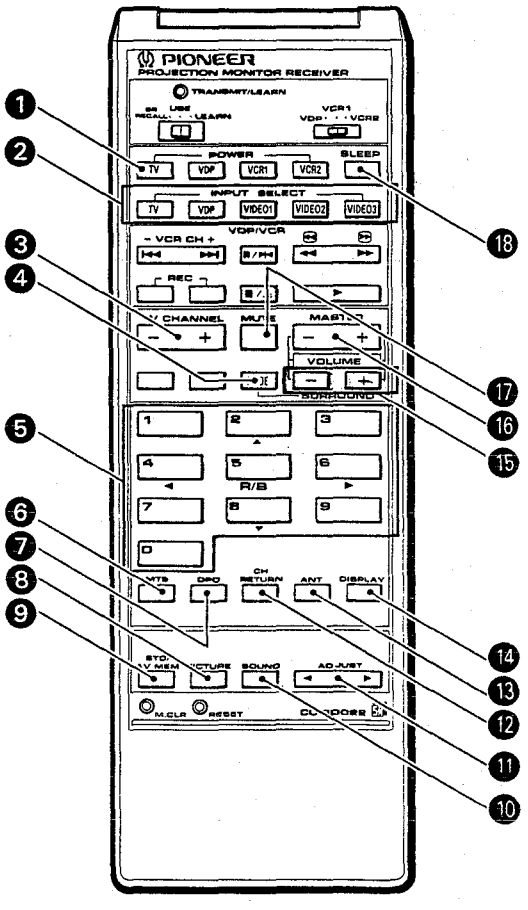
❶ TV POWER

Press once to turn on the projection monitor, press again to turn it off.

CU-SD021



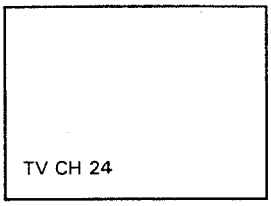
CU-SD022



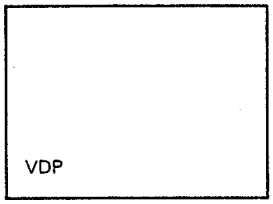
❷ INPUT SELECT

Press the key corresponding to the source you wish to watch. The screen will display your selection in the following manner:

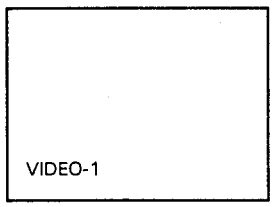
When you select TV



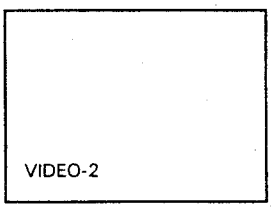
When you select LD Player



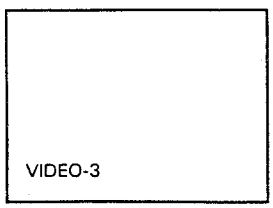
When you select VIDEO 1



When you select VIDEO 2



When you select VIDEO 3



❸ TV CHANNEL

Press the right (+) or left (−) side of this key to scan up or down among the channels in channel memory.

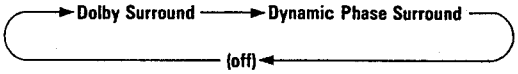
❹ Picture-in-Picture control keys (CU-SD021 only)

Any program source connected to the Projection Monitor can be displayed on the screen simultaneously with another source. The sub source is displayed in reduced size in a corner of the screen. For details, see page 49.

P IN P: Press to turn the Picture-in-Picture function on and off.
SWAP: Press to exchange the main and sub pictures.
SIZE: Each time this key is pressed, the sub picture size is alternately switched between 1/3 and 1/4.
SHIFT: Press to move the sub picture to a different corner on the screen.
INPUT: Press to select the sub picture program source.

SURROUND MODE (CU-SD021 only)

Press to select the surround mode of sound reproduction. Your choices revolve in a loop sequence as follows:

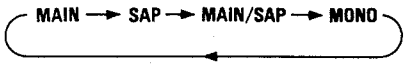


❺ Direct Channel Selection Pad

Press the key (or keys) that corresponds to the channel that you wish to watch, to turn directly to that channel from any other channel. The [2 ▲], [4 ◄], [5 R/B], [6 ►] and [8 ▼] keys are also used for the color convergence operation. For details, see page 14 of the projection monitor operating instructions.

❻ MTS (stereo)

Press to select the reception mode for multichannel TV sound (MTS). The switching sequence is as follows:

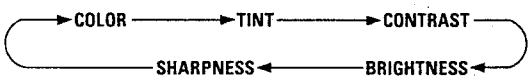


❼ DPO (Dynamic Picture Optimizer)

You can turn DPO on or off as desired. When DPO is on, it automatically adjusts the picture to compensate for room illumination. (See page 22 of the projection monitor instruction manual for details.)

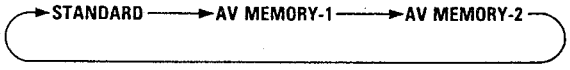
❽ PICTURE

Press to select the picture parameter to be adjusted.



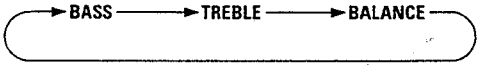
❾ STD/AV MEM (Memory)

Press to switch between the standard (STD) picture/sound settings and your AV MEMORY 1 and AV MEMORY 2 settings.
This switch only recalls settings stored in AV MEMORY; to store a current picture/sound setting in AV MEMORY, refer to the projection monitor instruction manual.



❿ SOUND

Press to select the sound parameter to be adjusted.



NOTE:
With the CU-SD022, the rear sound level cannot be adjusted.

PROJECTION MONITOR OPERATION

⓫ ADJUST
Press the right side of this key to increase the value of the item currently selected by the PICTURE key or SOUND key, and the left side of the key to decrease it.

⓬ CH RETURN
Press to switch between the current channel and the previous channel you were watching immediately before. This is useful, for example, when you wish to switch back and forth between two sporting events.

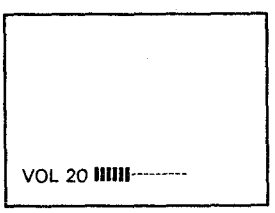
⓭ ANT
Press to switch between the sources connected to the ANTENNA-1 and ANTENNA-2 terminals. This is convenient, for instance, in switching between regular broadcast TV and cable TV.

⓮ DISPLAY
Press once to show the current channel and/or other information on the screen for about 4 seconds.

⓯ SURROUND VOLUME (CU-SD022 only)
Press the plus (+) key to increase volume in the surround mode, and the minus (−) key to decrease surround volume.
When surround mode is OFF, these keys do not function.

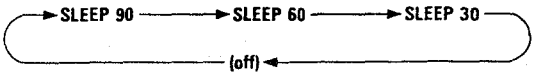
⓰ VOLUME (CU-SD021)/MASTER VOLUME (CU-SD022)
Press the right side (+) to increase the volume, and the left side (−) to decrease it. The screen shows your setting as a number and a line of blocks.

NOTE:
With the CU-SD022, the MATER VOLUME key adjusts the overall sound volume and the SURROUND VOLUME keys adjust the volume of rear speakers.



⓱ MUTE
Press to temporarily turn off the sound, and again to return to the previous volume level. This comes in handy, for example, when you get a phone call.
About 8 minutes after the MUTE key is turned on, the volume level is automatically set to minimum and the mute function automatically turns off.

⓲ SLEEP
Press to set the sleep timer.
The switching sequence (in minutes) is 90, 60, 30 and OFF (cancel).
The screen will confirm your setting and the projection monitor will shut down when that length of time has elapsed.

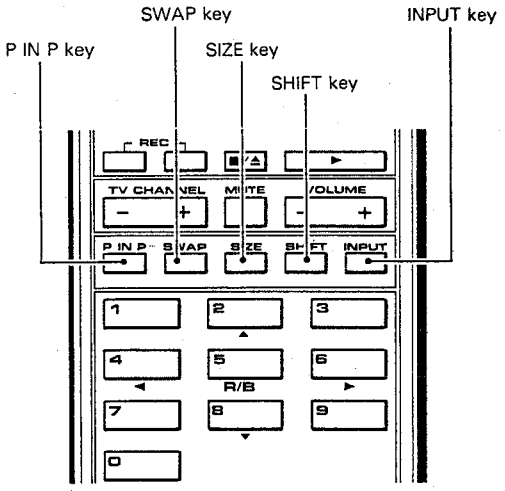


PICTURE-IN-PICTURE (CU-SD021 only)

Any two sources connected to the Projection Monitor can be displayed simultaneously on the screen, with one of the sources displayed in reduced size.

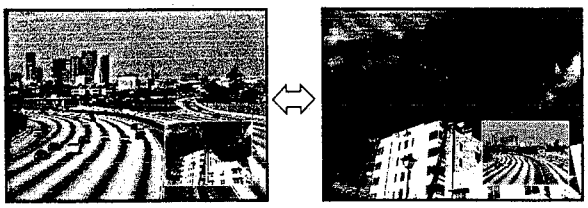
Turn on the P IN P key and select the sub picture source (TV, VDP, VIDEO 1, VIDEO 2 or VIDEO 3) with the INPUT key. The sub picture appears in the lower right corner of the screen.

- The sound from the sub picture source cannot be heard.
- TV channels can be selected with the TV CHANNEL "−/+" keys or with the 10-key pad.



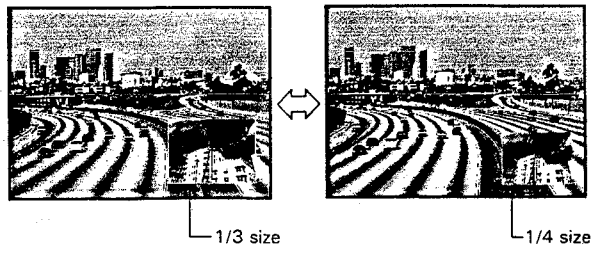
To exchange the main and sub pictures

Press the SWAP key. Each time this key is pressed, the main picture and the sub picture switch positions.



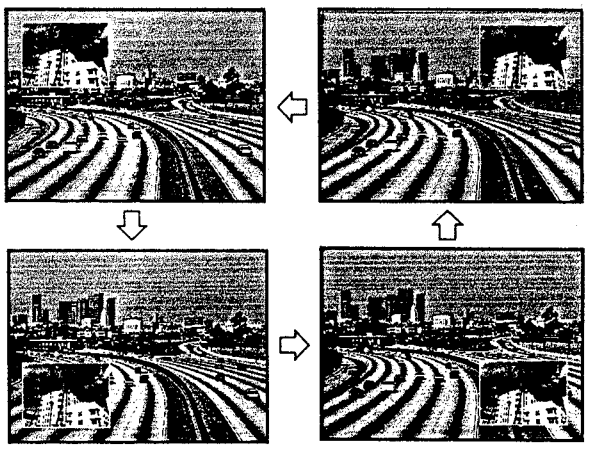
To select the sub picture size

You can choose the sub picture size to be 1/3 or 1/4 the size of the main picture by pressing the SIZE key. Each press changes the sub picture size between 1/3 and 1/4.



To select the position of the sub picture

You can put the sub picture in any of the four corners of the screen. Each press of the SHIFT key moves the picture counterclockwise.



NOTES:

- *When a copy protected tape is played back in the sub picture screen, the main picture sometimes deformed.*
- *With some VCR, when the VCR is not in play mode, the screen sometimes fluctuates. This is not a malfunction.*

SURROUND SOUND EFFECT (CU-SD022 only)

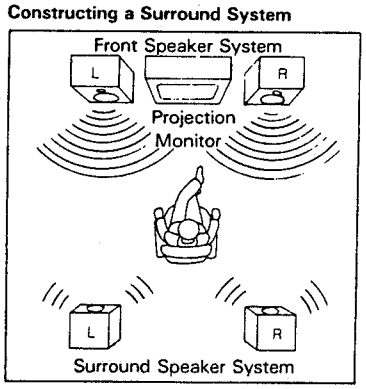
Dolby Surround and Dynamic Phase Surround

This monitor is equipped with a built-in surround processor for Dolby Surround and Dynamic Phase Surround.
To play sources recorded with Dolby Surround, select Dolby Surround with the SURROUND MODE key.
When you wish to give a surround effect to stereo sources recorded without Dolby Surround, select Dynamic Phase Surround with the SURROUND MODE key. The Dynamic Phase Surround setting gives surround and stereo effects to mono sources.
With an external stereo system and surround speakers you can enjoy surround sound. Make connections as shown on page 33 of the projection monitor instruction manual and set the front panel SPEAKER SELECTOR to EXT and the rear panel SURROUND ON/OFF switch to ON.

Surround Balance Adjustment

Play a monaural source, and set to DOLBY SURROUND with the SURROUND MODE key. Adjust the rear panel SURROUND BALANCE knob so that you hear minimum sound from the rear surround speakers during the movie dialog sections. Adjust the rear sound level with the SURROUND VOLUME keys so that the main dialog appears to come from the monitor screen. When you see a person talk on the screen, their voices should usually appear to come from the screen area, not from the rear.

Constructing a Surround System

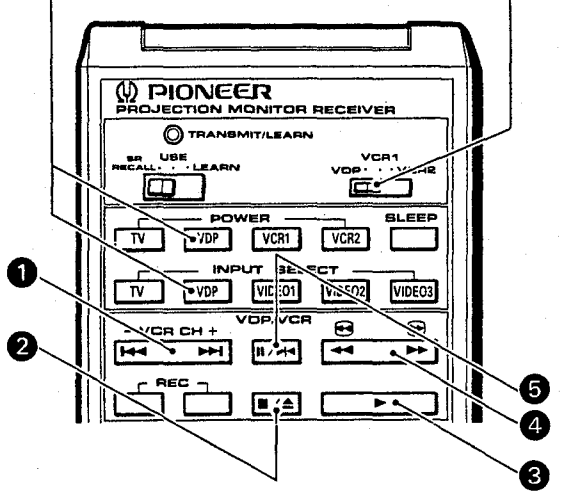


VDP OPERATION

If your VDP (videodisc player) is a Pioneer LD Player bearing the marking SR, your programmable remote control unit has all the operation commands preset in its memory, so you don't have to program them.

To operate the LD Player, first set the TRANSMIT MODE selector to the VDP position.

Next, press VDP of the POWER keys and VDP of the INPUT SELECT keys.



❶ CHAPTER SKIP |◄◄, ►►|

Press the right side of this key to move directly to the start of the next chapter; press the left side to move directly back to the start of the chapter currently in play. This works only with LD Players that have chapter skip capability.

❷ STOP/EJECT ■/⏏

Press once to stop playback, again to eject the disc.

❸ PLAY ►

Press to begin playback.

❹ SCAN ◄◄, ►►

Press to conduct high-speed visual scanning; pressing the left side of this key scans backward, and the right side scans forward.

❺ PAUSE II

Press to interrupt disc play. Picture and sound vanish until you press this key again.

Note:

The input selector must be set to "VDP" to watch LaserVision discs.

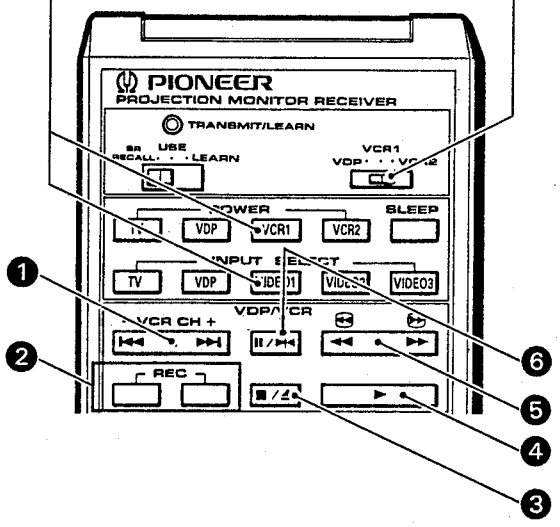
- *On the remote controller ..... Press the VDP key in the INPUT SELECT section.*
- *On the projection monitor ..... Press the INPUT SELECTOR until "VDP" appears in the corner of the screen.*

VCR OPERATION

If your VCR is a Pioneer model bearing the marking SR, your programmable remote control unit has all the operation commands preset in its memory, so you don't have to program them.

To operate the VCR, first set the TRANSMIT MODE selector to the corresponding position.

Next, press the VCR 1 POWER key and the VIDEO 1 INPUT SELECT key. For the component connected to the VIDEO 3 INPUT jacks, turn on the power switch of that component and press the VIDEO 3 INPUT SELECT key.



❶ CHANNEL –, +
Press to select channels on the VCR.

❷ REC
Press these two keys together to obtain recording.

❸ STOP ■
Press to stop the tape.

❹ PLAY ►
Press to begin playback.

❺ REWIND/FAST FORWARD ◄◄, ►►
This key allows high-speed movement through parts of the tape that you don't wish to watch. Press the left side of the key to rewind the tape, and the right side to advance.

During playback you can use this key to search visually forward or backward in the same way as you would use it to rewind. Search continues until you release the key.

❻ PAUSE/STILL ❚❚/►❙◄
Temporarily interrupts recording or playback, producing a still picture during playback.

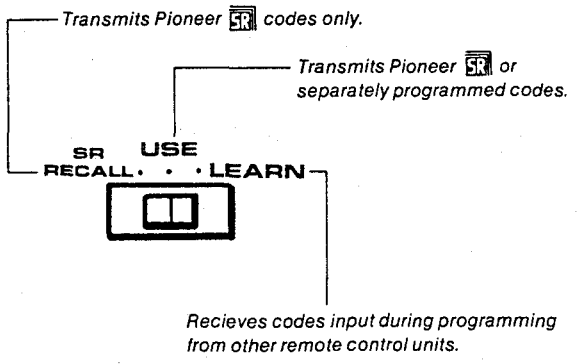
Note:
The input selector must be set to "VCR" to watch videocassettes.
- *on the remote controller..... Press the VIDEO 1, VIDEO 2 or VIDEO 3 key in the INPUT SELECT section.*
- *on the projection monitor..... Press the INPUT SELECTOR until "VIDEO 1," "VIDEO 2" or "VIDEO 3" appears in the corner of the screen.*

PROGRAMMING COMMANDS

Introduction

This remote control unit can "learn" the commands of other ones, regardless of their manufacturer, as long as the other unit is of the infrared type. In some cases you may still need the original remote control unit, but you will be able to use this unit for most of your video as well as audio system control needs.

NOTE:
It is advisable to program the unit in a room separate from the system with which it is to be used. This will prevent problems such as sudden high-volume output or accidental tape erasure that may occur if command signals reach your components during programming. Or, you may wish to unplug your component system and conduct programming in the same room. Simply turning off the power may not be sufficient since power on/off switching may also be remote controllable. Also do not throw away the original remote control units after programming. You might need the original ones in the future.


Transmits Pioneer SR codes only.
Transmits Pioneer SR or separately programmed codes.
SR USE
RECALL • • • LEARN
Recieves codes input during programming from other remote control units.

Which keys can be programmed with new commands?

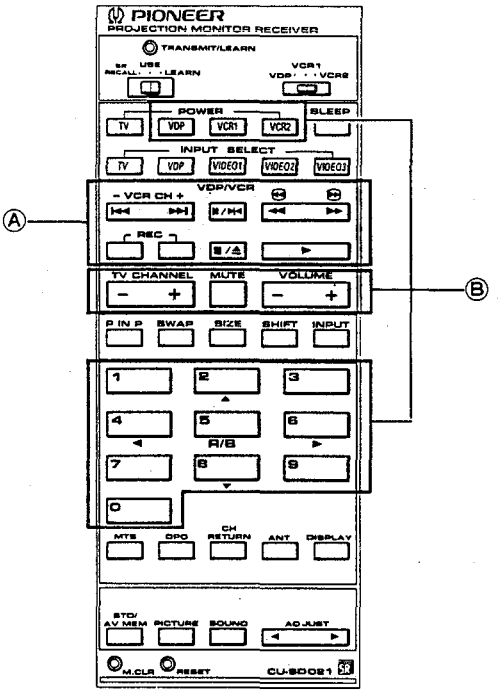
Setting the LEARN MODE selector to the LEARN position allows the unit to memorize codes. Once programmed, these new commands can be transmitted only when the LEARN MODE switch is in the USE position. The SR RECALL setting will only allow transmission of the initialized Pioneer SR codes.

For VDP/VCR controls in the area indicated Ⓐ, the keys can be programmed with commands from other remotes according to the TRANSMIT MODE. In other words, each key can have up to three different functions to the setting of the TRANSMIT MODE.

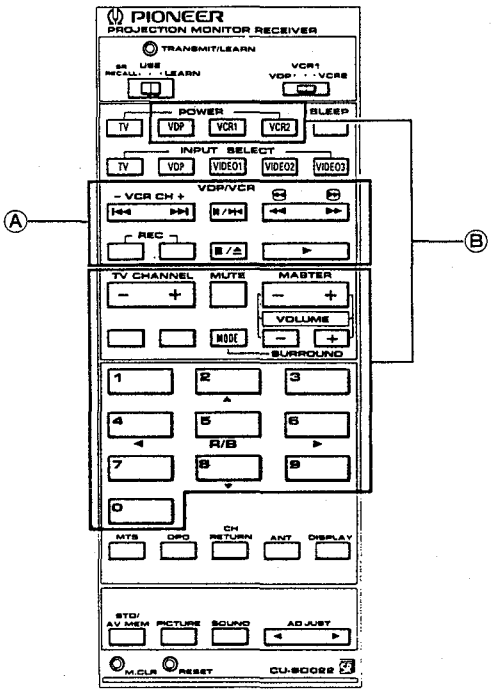
For POWER and other TV controls in area Ⓑ, each key can be programmed with only a single command, regardless of the TRANSMIT MODE setting.

This remote control unit contains preprogrammed commands compatible with Pioneer equipment. If your home audio/video center consists exclusively of Pioneer components, you can use the unit without any additional programming. It is also possible to return to the original Pioneer commands after assigning other commands. (Refer to "Returning to the Initial Settings" for details.)

CU-SD021



CU-SD022



PROGRAMMING COMMANDS

Other Important Notes

- A total of 47 keys may be used for memorization of other codes.
  (This may vary depending on the command format of the codes to be memorized.)
- There are 2 keys on the unit for recording, to help prevent misoperation. To start recording, or to memorize a command code with the REC keys, both of them must be pressed at the same time.
- When the batteries run down, all functions will stop automatically. If the indicators no longer light or flash, or components do not respond to signals from the unit, the batteries need to be replaced. (Always use alkaline cells.)
- When programming keys, make sure that both units are loaded with fresh batteries.
- Programming may be impossible from some types of infrared remote control units.

How to preset the remote control buttons

1 Set the TRANSMIT MODE switch to the VDP, VCR 1, or VCR 2 position.

2 Set the LEARN MODE switch to LEARN.

3 Place the other remote control unit and the programmable remote control unit on a table facing each other, separated by a distance of 2 to 4 inches (5 to 10 cm).
Programming will not be possible if the units are too close to each other.

4 Press the key to be programmed of the programmable remote control unit until the TRANSMIT/LEARN indicator lights up.

5 Press a key of the other remote control unit until the TRANSMIT/LEARN indicator goes off.

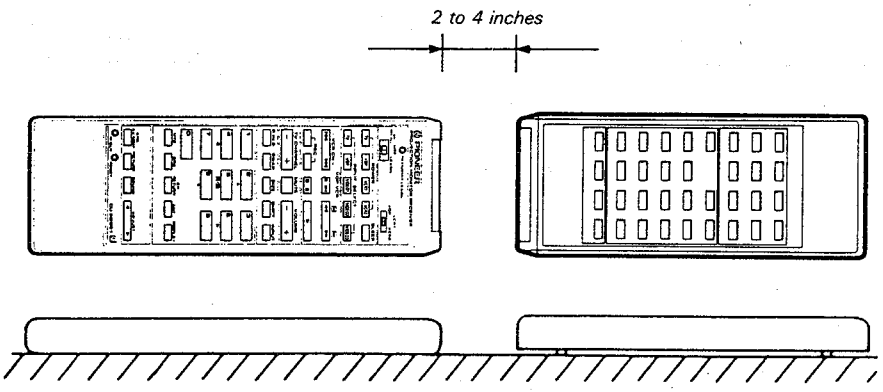
NOTE:
If the LEARN indicator flashes, it indicates either that you are trying to store a command with a key incapable of being used in the LEARN function or that the remote control unit's programming capacity has been exceeded. In the latter case, the function last programmed will not be stored correctly. All previously programmed functions, however, will be retained in the memory and may be used as they are if the last function is not essential.
For re-programming information, refer to "Returning to the Initial Settings."

6 To preset other keys, repeat steps 3 to 5.

7 When finished, set the LEARN MODE switch back to the USE position.

8 Point the programmable remote control unit toward the corresponding component and check operation by pressing the keys you just finished presetting.
If the component does not work as expected, repeat steps 1 to 8. Try changing the distance between the remote control units at step 3.

NOTES:
- *When programming, make sure that function indications (e.g., ►, ►►, ■) are programmed from the original remote control unit into the matching keys of the programmable unit; this will greatly facilitate operation.*
- *Do not use excessive force when pressing the keys.*



NOTES:
1. *If programming is not carried out successfully:*
- *Position the remote control units at a greater distance from each other.*
- *Position the remote control units slightly out of line with each other.*

2. *If the remote control unit is directly subjected to strong fluorescent light, programming may not be possible.*
3. *If remote control operation is not successful although programming was successful:*
- *Press the RESET button. (The programmed signals will not be erased.) If the problem still cannot be corrected, press the M.CLR button and try programming again.*
- *After programming is completed, set the LEARN MODE switch to the USE position.*

Questions and Answers on Programming Commands

Q: The remote control unit for my VCR has two REC keys, which both have to be programmed at the same time to start recording. How should I program this into my programmable remote control unit?

A: Press and hold both REC keys on the programmable remote control until the TRANSMIT/LEARN indicator lights up, and then press the two keys on the VCR remote control simultaneously.

Q: The remote control unit of my VCR has a REC key and a PLAY key, and they both have to be pressed at the same time to start recording. How should I program this into my programmable remote control unit?

A: Press and hold both REC keys on the programmable remote control until the TRANSMIT/LEARN indicator lights up, and then press the REC and PLAY keys on the VCR remote control simultaneously.

NOTE:
If both keys are not pressed simultaneously in the above mentioned operations, the commands will not be memorized.

Battery Replacement

Replace the batteries as soon as possible if pressing the control keys does not cause the TRANSMIT/LEARN indicator to light even after the RESET button has been pressed.
Be sure to always use the specified batteries (LR6/AM3 alkaline batteries).

NOTE:
As the unit's power switch is connected to the battery compartment cover:

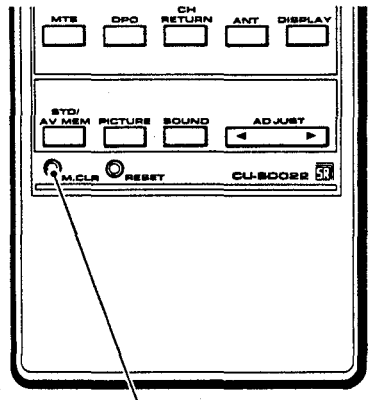
- *The unit will not operate when the cover is off even if batteries are loaded.*
- *If batteries are not loaded and the cover is replaced, the memory will be lost after a few seconds.*
- *With batteries loaded and the cover off, memory is retained for about 15 minutes.*
- *Be very careful not to lose the battery compartment cover.*

Returning to the Initial Settings

Proceed as follows to return all settings to the Pioneer Remote Control Code Settings.

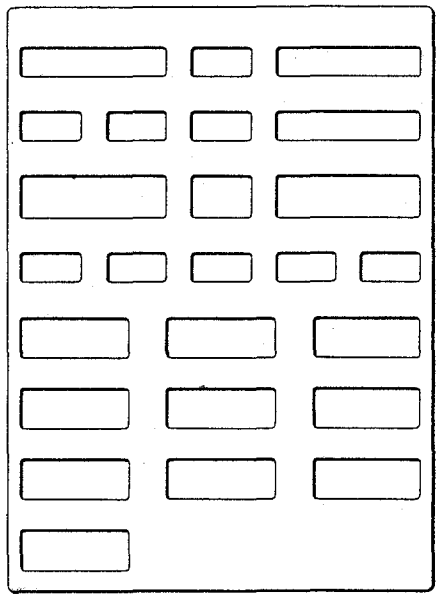
1. Set the LEARN MODE selector to the LEARN position.
2. Press any programmable key. (The TRANSMIT/LEARN indicator will light.)
3. Using a ball-point pen or similar object, press and hold the M.CLR button down until the indicator flashes and then goes out.

All commands you programmed will be erased, and the unit will be reset to use codes initially set by Pioneer.



M.CLR button

Overlay
An overlay sheet is provided, on which you can write the functions of keys you have programmed from other remote control units and fit over the unit keyboard for your own personal reference.



SPECIFICATIONS

Operation System:	Programmable infrared remote control system
Power Source:	Two AM-3, "AA" IEC LR6 1.5 V alkaline dry cell batteries
Attachments:	Two batteries, operating instructions, a written guarantee and one overlay sheet
Dimensions:	73 (W) ×21 (H) ×214 (D) mm 2-7/8 (W) ×13/16 (H) ×8-7/16 (D) in.
Weight:	135 g (4.7 oz.) (excluding batteries)